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- Incidence and demographical characteristics of patients with post-traumatic stress disorder due to motor vehicle accidents
- Self-management approaches among hypertensive residents in nursing homes in Malaysia
- Post-treatment impact and needs of prostate cancer survivors in Malaysia; a qualitative study



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Something old, something new

Liew SM

Editor-in-Chief

Dear readers,

And so 2017 comes to an end and 2018 begins. This has been an eventful year with political and climate issues impacting all, even health care. It is hard to predict what the coming year will bring – it highlights how poor at prediction we are, even in medicine. I am reminded of this every time I calculate cardiovascular risk for a patient. We can calculate probabilities but these calculations cannot say whether the individual who sits in front of me will fall into the 20% who will have a cardiovascular event in ten years or the 80% who will not.

This year, the Board of Editors came together to revisit the aims and objectives of this journal. Our focus will continue to be on family medicine in Malaysia as it has always been. We aim to act as the voice of family physicians both locally and globally. The objectives of the Malaysian Family Physician are to disseminate both research and education relevant to family medicine. We will continue to publish both research and educational articles but have added a new section: 'A Moment in the Life of a Family Physician'. This will be published in the form of a short narrative that will share perspectives, views and opinions on a family physician's experience that has had an impact on their practice or life. Sharing of views and experiences has always been an important part of family medicine and we hope that this will similarly play an important part in our journal.

At times, the different areas covered, namely research, training and clinical practice, seem very different from one each other. But in reality all of them have their roots in evidence-based medicine (EBM). EBM has taken a beating lately from academicians, clinicians and politicians. Yet, we cannot and should not diverge from this approach even when it is no longer trendy. Like all root concepts, it helps to inform and guide us. This approach attempts to ensure that medical decision-making is patient-centred and based on the best available research evidence (even if the best available is simply a case report) and clinical expertise. This approach is not easy because it requires time and resources. This approach is not simple because it requires that attention be paid to all three aspects. This approach is not always what the patient wants the treatment to be, what the doctors think is the best approach, nor what the policy maker believes is the most effective strategy. But medical decisions are seldom easy or simple to make and should not be based simply on views, opinions or trends. We practice EBM because it helps guide complex decisions and medical decisions are usually complex.

The Malaysian Family Physician would like to wish all our readers a Happy New Year.

Incidence and demographical characteristics of patients with post-traumatic stress disorder due to motor vehicle accidents

Bahari R, Mohamad Alwi MN, Ahmad MR, Mohd Saiboon I

Bahari R, Mohamad Alwi MN, Ahmad MR, et al. Incidence and demographical characteristics of patients with post-traumatic stress disorder due to motor vehicle accidents. *Malays Fam Physician*. 2017;12(3);2–7.

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Abstract

Introduction: Motor vehicle accidents (MVAs) are daily occurrences in Malaysia but the extent to which victims are psychologically affected is not well known. The objective of this study is to determine the incidence and demographic characteristics of patients with post-traumatic stress disorder (PTSD) due to MVAs at a university hospital in Malaysia.

Methods: Patients presenting to the emergency department from August to October 2014 due to MVA-related injuries were recruited. After a period of at least one month, they were followed-up and screened using the validated Malay Post Traumatic Stress Disorder Checklist Civilian version. A score of 30 was chosen as the cut-off point for PTSD.

Results: In total, 112 patients presented to the emergency department following MVAs during the study period. Of these, 60.7% agreed for the follow-up. Among the respondents, the mean age was 26 years, 91.2% were males, 66.2% were married, 85.3% were Malays and 88.3% were Muslims. The calculated incidence of PTSD was 7.4%. There was no significant difference noted between the PTSD and non-PTSD groups.

Conclusion: A considerable number of MVA victims in Malaysia may develop PTSD after the accident. Further research is needed to explore the factors that contribute or protect to develop the condition.

Introduction

Near death experiences, serious injuries or sexual assaults are events which are considered traumatic, especially when they are unexpected and catastrophic. Following such exposure, psychological sequelae are common but for most sufferers, symptoms will spontaneously disappear as time passes. In some cases, the condition called post-traumatic stress disorder (PTSD) could occur as a result. This condition is diagnosed when intrusion memories, avoidant actions, deterioration in mood and cognition as well as hyperarousal symptoms persist beyond one month.^{1,2}

The lifetime prevalence of PTSD varies greatly from 0.3% to 6.8% depending on the population studied.^{3,4} In the months following exposure to traumatic events, the prevalence of PTSD increased greatly, 15% to 75% following man-made disasters (e.g., toxic spills and collapse of buildings) but lower (3.7%–60%) after natural disasters.⁵ Numerous research on

the condition has been conducted throughout the years, but mainly in the military population and in combat situations.⁶ Events such as natural and man-made disasters, assaults and motor vehicle accidents (MVAs) are no less traumatic and may even be more significant because they affect more people in larger geographical areas. Fortunately, these events are no longer being neglected and more research is being done to study their consequences.⁷

Every year, more than one million people die due to MVAs globally and it is the eighth leading cause of death worldwide.⁸ Studies in the US estimated that around 24% to 33% of MVA victims suffer from PTSD after one month of the accident.⁷ In 2012, there were 462,000 MVAs in Malaysia and about 7000 road deaths were reported. This number is projected to increase every year and in 2015, the estimated number was 9000 road deaths.⁹ The numbers are astounding, but the real question is – will they bring about significant psychiatric morbidity? Currently, no data exist on the rate of PTSD for Malaysian MVA victims.

The aim of this study is to determine the incidence of PTSD one month after the presentation of MVAs at an emergency department in a university hospital in Malaysia and the demographical characteristics of those patients.

Methods

This prospective study was conducted in an emergency department of a large university hospital in Klang Valley. Ethical approval was obtained prior to commencement from the university hospital's own Ethics Committee. During the months of August to October 2014, all patients who presented with MVA-related injury were recruited into the study. Subjects recruited were followed-up one month later and were asked to complete a self-rated screening questionnaire for PTSD. The data were analysed using IBM SPSS Statistics computer software version 22.

Study sample

The study only included adults aged 18 and above who attended the hospital's emergency department for injuries due to MVAs during August to October 2014. Other inclusion criteria were subjects had to be co-operative, literate and able to understand Malay or English language. Those with major language issues or cognitive problems such as dementia were excluded from the study.

Study instrument

The study utilised the Post Traumatic Stress Disorder Checklist for Civilians (PCL-C).¹⁰ It has the advantage of being self-rated, hence not increasing the load on an already stretched emergency department staff. Its brevity (17 items) also suited patients. It has strong validity with the gold standard diagnostic procedure – the Clinician Administered PTSD Scale (CAPS).¹¹ A translated version of the PCL-C, the Malay PCL-C (MPCL-C), has been validated for use in the Malaysian population.¹² The cut-off point for PTSD was taken as the total MPCL-C score of 30 and above as recommended by the original authors.¹³

Results

During the study period, 112 patients fulfilled the study criteria and were included. After one month following their recruitment into the study, subjects were followed-up and asked to complete the MPCL-C via a telephone interview. During the follow-up contact, 68 patients responded and agreed to complete the questionnaire (60.7%). The mean age of those who responded was 26 years, the majority were male (91.2%) and single (33.8%). The rest of the demographic data of the subjects included in the study can be seen in **Table 1**.

Table 1. Sociodemographic characteristics at one month after motor vehicle accident

	No.	%
Age (years)	Mean (SD), 66.09 (5.90)	
<i>Gender</i>		
Male	62	91.2
Female	6	8.8
<i>Marital status</i>		
Single	45	66.2
Married	23	33.8
<i>Race</i>		
Malay	58	85.3
Chinese	2	2.9
Indian	5	7.4
Other	3	4.4
<i>Religion</i>		
Muslim	60	88.3
Christian	3	4.4
Buddhist	2	2.9
Hindu	3	4.4

	No.	%
<i>Occupation</i>		
Unemployed	3	4.4
Student	21	30.9
Sales and services	17	25
Technical	9	13.2
Administrative	6	8.8
Professionals	4	5.9
Police/Army	4	5.9
Factory operator	4	5.9
<i>Monthly income (RM)</i>		
Less than 1000	5	7.9
1000–2999	23	36.5
3000–4999	7	11.1
5000–9999	4	6.4
More than 10,000	1	1.6
Undisclosed	23	36.5
<i>Vehicle</i>		
Pedestrian	1	1.5
Motorcycle	65	95.6
Car	2	2.9

In this population, the incidence of PTSD of following MVA was found to be 7.4%. Although about one third (33.3%) of the female participants was ascertained to suffer from PTSD symptoms after one month of MVA, the difference by gender was not significant. There was no significant difference between the PTSD and non-PTSD groups in terms of age, marital status and seriousness of the event (**Table 2**).

Table 2. Comparison between groups

	PTSD (%)	Significance
Age (Mean)		
No PTSD	26.2	$p = 0.46^*$
PTSD	23.4	
Gender		
Male	4.8	$p = 0.58^{**}$
Female	33.3	
Seriousness of Accident		
Minor	9.1	$p = 0.93^{***}$
Moderate	7.1	
Major	6.7	
Marital status		
Single	8.9	$p = 0.45^{**}$
Married	4.3	

*t-test for equality of means; **Fisher's exact test; ***One-way ANOVA.

Discussion

The diagnosis of PTSD in this study is ascertained using the PCL-C, which is based on the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV).¹⁴ The current diagnostic manual in use is the fifth edition of the DSM (DSM-5), gradually replacing the older version of the manual since 2013.¹⁵ However, during the study period, there was no validated tool for PTSD compatible with DSM-5 available. Work on determining the psychometric properties of the updated version of the PCL, the PCL-5, is still underway.^{16,17} The major changes between PCL and PCL-5 were three new symptoms were added (blame, negative emotions and self-destructive behaviour) and the corresponding increase in the number of items from 17 to 20, rewording and the change to four-point scales.¹⁷ Hence, while some new symptoms were added, the core symptoms remained the same and thus PCL's use would still be acceptable until the PCL-5 has been fully validated.¹⁸ The other important issue to note is that there were three versions of the PCL available, the PCL for military personnel (PCL-M), for civilians (PCL-C) and for specific stressful events (PCL-S). However, there is only one version of the PCL-5 available, and it corresponds to PCL-S.¹⁹

Since this study was conducted, a few papers on PTSD following MVA on Malaysian roads were published. A study by Ghazali et al. looked at lifetime exposure to stressful events and PTSD symptoms among adolescents in Sarawak.²⁰ They found that MVAs were the most common stressful events encountered (20.1%). In total, 7.1% of these adolescents, regardless of the types of trauma experienced, were positive for PTSD symptoms but but there was no specific analysis for MVA exposure. Hence, the prevalence of PTSD in these adolescents due to MVA was not reported. Jaapar et al. conducted a study to evaluate the prevalence of PTSD among trauma patients in the orthopaedic setting in Kelantan.²¹ In this population, the main cause of trauma was MVA, but patients who presented with other sources of trauma were also included. Their study found the prevalence of PTSD in this group to be 24.9%. Nevertheless, even with the publication of these two papers, the incidence and prevalence of PTSD in MVA victims specifically were still not determined prior to this study.

The rate of PTSD calculated in this study is by far lower than those quoted above from studies in the USA. In a meta-analysis by Ozer et al., perceived life threat had a small to medium significance in predicting the development of PTSD. Hence, including cases of non-severe accidents that have lower perceived life threat in this study may have lowered the incidence.²² Studies in Japan yielded similar rates, i.e., between 7.5% and 8.5%^{23,24} and the authors suggested that culture may have influenced the rates. This is a plausible explanation. Certainly, in the Eastern culture, psychological symptoms are not taken as seriously as physical symptoms and hence may not be regarded as indications of illness at all. This, in turn, will influence health seeking behaviour resulting in underdiagnosis of the condition. A third explanation may be due to compensation seeking practices. In the Western world, PTSD is one of the commonest mental illness to be brought to courts for compensation purposes.²⁵ For those patients, the diagnosis of PTSD is highly beneficial and allows them to receive claims for damages. However, in Malaysia, the compensation seeking culture is still unfamiliar like many other countries in the Asian region. It is possible that the overestimation of PTSD rates for MVA victims in the USA is due to legislative action being pursued.

The sociodemographic characteristics of patients involved in this study show a high predominance of young, single, male motorcyclists. Although, they do not represent the general population of Malaysia, they do, however, represent the population frequently involved in MVAs in the Klang Valley area.²⁶ The Klang Valley is a highly urbanised populous area where most households would own at least one car and maybe an additional one or two motorcycles. The other parts of Malaysia vary in differences and similarities to the Klang Valley and the data may not be generalisable to the entire country.

The other point of interest is that there were no significant differences between the PTSD and non-PTSD groups in terms of age, gender, marital status and seriousness of the accident. On the contrary, many studies have found that women were more likely to develop PTSD following MVAs than men.²⁷ In this study, women made up only about 9% of the sample but yet 33.3% of them

were positive for PTSD. Since the difference is not statistically significant in this study, it is possible that the number of female participants in the study was too small to make a meaningful comparison.

Finally, the other limitations of the study include the high drop-out rate and the inability to make a proper comparison between groups due to the low incidence of PTSD. This can be improved by having a larger sample either through conducting the study for a longer period of time or oversampling participants at the time of recruitment or both. The inclusion of participants with non-serious MVAs was another limitation, which may dilute the incidence obtained. As the study was conducted in one hospital in the Klang Valley, generalisability may be problematic and a larger study involving different centres across the country may be required.

Conclusion

A significant number of MVA victims in Malaysia develop PTSD. If this condition is not managed properly, the number will increase and it may become a more prevalent illness. As part of the skilful management of any mental illness, the treatment has to start with detection and diagnosis, which highlights the importance of our study. Nevertheless, further research is needed to uncover the factors influencing the development of PTSD in order to understand the condition better and hence manage it effectively.

Acknowledgement

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References

- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, (5th ed). Arlington, VA: American Psychiatric Publishing; 2013. 991 p.
- Van der Kolk B, Najavits LM. Interview: What is PTSD really? Surprises, twists of history, and the politics of diagnosis and treatment. Interview by Lisa M Najavits. *J Clin Psychol*. 2013;69:516–22.
- Lee S, Tsang A, Zhang MY, et al. Lifetime prevalence and inter-cohort variation in DSM-IV disorders in metropolitan China. *Psychol Med*. 2007;37(1):61–71.
- Kessler RC, Berglund P, Demler O, et al. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005;62(June):593–602.
- Neria Y, Nandi A, Galea S. Post-traumatic stress disorder following disasters: a systematic review. *Psychol Med*. 2008;38(4):467–80.
- Brewin CR, Andrews B, Valentine JD. Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *J Consult Clin Psychol*. 2000;68(5):748–66.
- Beck JG, Coffey SE. Assessment and treatment of PTSD after a motor vehicle collision: empirical findings and clinical observations. *Prof Psychol Res Pract*. 2007;38(6):629–39.
- World Health Organization. WHO global status report on road safety 2013: supporting a decade of action. 2013 Available at: <http://apps.who.int/iris/handle/10665/78256>
- Sarani R, Rahim S, Marjan JM, et al. Predicting Malaysian road fatalities for year 2020. Malaysian Institute of Road Safety Research. Kuala Lumpur; 2012.
- Weathers FW, Litz BT, Herman DS, et al. The PTSD Checklist (PCL): reliability, validity, and diagnostic utility. Paper presented at the Annual Meeting of International Society for Traumatic Stress Studies. San Antonio, TX; 1993.
- Blanchard EB, Jones-Alexander J, Buckley TC, et al. Psychometric properties of the PTSD checklist (PCL). *Behav Res Ther*. 1996;34:669–73.
- Bahari R, Alwi MNM, Ahmad MR, et al. Translation and validation of Malay Post Traumatic Stress Disorder Checklist for Civilians. *ASEAN J Psychiatry*. 2015;16(2):203–11.
- U.S. Department of Veteran Affairs. PCL user guide short final version [Internet]. 2013. Available at: <http://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp>
- American Psychiatric Association. *DSM-IV. Diagnostic and Statistical Manual of Mental Disorders*, (4th ed) TR. 2000. 210,373–4 p.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, (5th ed) (DSM 5). American Psychiatric Association; 2013. 991 p.
- Wortmann JH, Jordan AH, Weathers FW, et al. Psychometric analysis of the PTSD Checklist-5 (PCL-5) among treatment-seeking military service members. *Psychol Assess*. 2016;28(11):1392–403.
- Bovin MJ, Marx BP, Weathers FW, et al. Psychometric properties of the PTSD Checklist for Diagnostic and Statistical Manual of Mental Disorders (5th ed.) (PCL-5) in veterans. *Psychol Assess*. 2016;28(11):1379–91.
- National Center for PTSD. Using the PTSD Checklist for DSM-IV (PCL) [Internet]. U.S. Department of Veteran Affairs; p. 1–3. Available at: <http://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp>

19. U.S. Department of Veteran Affairs. PTSD Checklist for DSM 5 (PCL-5) [Internet]. 2016. Available at: <http://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp>
20. Ghazali SR, Elklit A, Balang RV, et al. Preliminary findings on lifetime trauma prevalence and PTSD symptoms among adolescents in Sarawak Malaysia. *Asian J Psychiatry*. 2014;11:45–9.
21. Syed Jaapar SZ, Abidin ZZ, Othman Z. Post traumatic stress disorder and its associated risk factors among trauma patients attending the orthopaedic wards and clinics in Kota Bharu, Kelantan. *Int Med J*. 2014;21(6):541–3.
22. Ozer EJ, Best SR, Lipsey TL, et al. Predictors of posttraumatic stress disorder and symptoms in adults: a meta-analysis. *Psychol Bull*. 2003;129(1):52–73.
23. Nishi D, Noguchi H, Yonemoto N, et al. Incidence and prediction of post-traumatic stress disorder at 6 months after motor vehicle accidents in Japan. *Psychosomatics. Acad Psychosom Med*. 2013;1–9.
24. Hamanaka S, Asukai N, Kamijo Y, et al. Acute stress disorder and post-traumatic stress disorder symptoms among patients severely injured in motor vehicle accidents in Japan. *Gen Hosp Psychiatry*. 2006;28:234–41.
25. Bottalico B, Bruni T. Post traumatic stress disorder, neuroscience, and the law. *Int J Law Psychiatry*. 2012;35(2):112–20.
26. Jamaluddin N, Ho JS, Shabadin A, et al. Exposure work commuting : case study among commuting accident in Klang Valley, Malaysia. 16th International Conference Road Safety on Four Continents, Beijing, China; 2013.
27. Irish LA, Fischer B, Fallon W, et al. Gender differences in PTSD symptoms: an exploration of peritraumatic mechanisms. *J Anxiety Disord*. 2012;25(2):209–16.

Self-management approaches among hypertensive residents in nursing homes in Malaysia

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Abstract

Introduction: The prevalence of hypertension in Malaysia is increasing and an effective management of hypertension is important to reduce cardiovascular morbidity and mortality.

Objective: To determine the knowledge, awareness and perception towards hypertension among residents in nursing homes as well as the roles of caregivers in hypertension management.

Method: A face-to-face survey with 200 hypertensive residents and 30 caregivers from 24 nursing homes in Kuala Lumpur and Selangor, Malaysia was conducted.

Result: Of all the hypertensive residents, 90.5% ($n = 181$) knew that lowering their blood pressure could improve their health. Most residents strongly believed that taking antihypertensive drugs is important for keeping their high blood pressure under control ($n = 162$, 81%). Taking medication was perceived as the most important factor in controlling the high blood pressure (58%, $n = 116$) compared to lifestyle or diet modification. The majority of the caregivers reported that they played a major role in managing hypertension, especially with regards to medication-taking task (66.7%, $n = 20$).

Conclusion: The knowledge, attitude and perceptions of hypertension play a relatively major role in the self-management of hypertension. The role of caregivers also needed to be recognised in managing hypertension in nursing homes.

Introduction

The high prevalence of hypertension has been reported from various regions around the world.¹ The National Health and Morbidity Survey reported that the prevalence of hypertension in Malaysia in adults increased from 42.6% in 2006 to 43.5% in 2011.² Hypertension is the most common risk factor for coronary artery disease, peripheral arterial disease, end-stage renal failure, stroke and all-cause mortality.³ The complication of hypertension could be prevented by lowering blood pressure, leading to a significant reduction in cardiovascular morbidity and mortality rates.⁴ Therefore, the management of hypertension is important for the overall reduction of cardiovascular morbidity and mortality.⁵

Antihypertensive medication and lifestyle modification are essential for the prevention of high blood pressure.⁶ Self-management interventions have beneficial effects on people with chronic conditions.⁷ Hypertension self-

management behaviours, including medication adherence, self-blood pressure monitoring and lifestyle modifications involving diet and exercise, are recommended and have been shown to result in a significant reduction in blood pressure.⁸

The number of hypertensive patients is rising drastically due to the increasing aging population.² Age is a major risk factor for the development of hypertension and older people are more likely to have their blood pressure uncontrolled.⁹ The development of blood pressure education programs to improve hypertension management is needed because patients' knowledge and perceptions of hypertension play a relatively major role in the self-management of high blood pressure, which is necessary for optimising successful health outcomes.^{2,10} The patients with higher awareness towards hypertension were demonstrated to have significantly better medication and follow-up compliance than patients without this awareness.¹¹

Every year, there is a increase in the number of older people who cannot care for themselves and have to stay in nursing homes.^{12,13} Hypertension is common among nursing home residents and they are treated with antihypertensive drugs, more frequently than any other medications.¹³ In older people, the prevalence of hypertension is high, but disease awareness and self-management measures are found to be low.¹⁴ Therefore, this study is aimed at determining the knowledge, awareness and perception towards hypertension among hypertensive residents in nursing homes. In addition, the roles of caregivers in hypertension management are also examined in this study.

Methodology

A cross-sectional survey was carried out in 24 nursing homes in Kuala Lumpur and Selangor, which are registered with the Central Welfare Council of Malaysia or the Ministry of Social Welfare, Malaysia from April 2014 to December 2014. A total of 85 nursing homes were first identified and a random selection of 24 nursing homes was made based on the number of official approvals obtained from each nursing home. All the residents were informed regarding the purpose of the study by the researchers, who were assisted by the caregivers or management personnel. Participants were recruited by simple random sampling and informed consent was taken. Inclusion criteria were being diagnosed by their doctors as having hypertension, able to speak English or Malay and willing to stay in a nursing home for more than 3 months. Any hypertensive residents who were bedridden were excluded from this study. Participants' blood pressures were measured three times during the visit by a trained researcher and an average blood pressure reading greater than 140 mmHg systolic or 90 mmHg diastolic was considered to be uncontrolled hypertension.

The information on participants' hypertension knowledge, awareness and perception (KAP) was obtained from a validated questionnaire that consisted of 7 questions about hypertension knowledge, 3 questions about awareness and 6 questions about perception, which were designed for use in hypertensive populations.¹³ In addition, descriptive information related to hypertension management was obtained from the caregivers. The caregivers were eligible for this study if they were working in a nursing home for more than 3 months and could understand Malay and English. This study was approved

by Universiti Kebangsaan Malaysia Research Ethics Committee (UKM 1.5.3.5/244/NF-029-14).

The data that were collected was analysed using the Statistical Package for Social Sciences version 22 (IBM Corp., Armonk, NY). Data regarding KAP are presented descriptively to provide information on the characteristics of the study sample. Numerical data are expressed as the mean $\pm$ standard deviation (SD) or percentage. The chi-square test was employed to evaluate the proportion of residents who achieved the target blood pressure ($<140/90$ mmHg) or uncontrolled blood pressure ($>140/90$ mmHg) in relation to their demographic characteristics and lifestyle habits. A *p*-value of less than 0.05 was considered to be significant.

Results

Of the 200 hypertensive residents recruited in this study, 124 (62%) had their blood pressure within the normal range, while 76 (38%) residents were categorised into the uncontrolled blood pressure group (**Table 1**). The average blood pressure was 134 mmHg systolic and 78 mmHg diastolic. The majority of residents (91.5%, $n = 113$) did not remember their last blood pressure reading. In this study, factors like age, gender, ethnicity, body mass index and level of education were associated with blood pressure control ($p > 0.05$). About 58.5% ($n = 117$) of the residents were prescribed with one antihypertensive drug and 59% ($n = 108$) of the residents had at least one co-morbidity, specifically diabetes mellitus, hyperlipidaemia or heart disease. Less than half of the residents (46.5%, $n = 93$) reported exercising regularly, and the mean exercise frequency was 5 times per week. Almost all of the residents (91.5%, $n = 183$) agreed about the importance of a healthy diet in managing their hypertension.

Most of the residents managed to provide the correct meaning of hypertension (59.5%, $n = 119$) and thought that hypertension was extremely dangerous to their health (71%, $n = 142$; **Table 2**). However, many of them could not answer specific questions about hypertension. For example, approximately 40.5% ($n = 81$) of residents correctly defined the two measures of blood pressure but most of them were unable to correctly identify between systolic and diastolic blood pressure. Almost all residents reported that they did

not receive any information regarding their blood pressure from their healthcare providers (70%, $n = 140$; **Table 3**). The residents also reported not being informed of the importance of keeping their blood pressure under control. Taking medication was believed to be very important for control of their blood pressure (81%, $n = 162$) and the residents also believed that changing their lifestyle could help in lowering their blood pressure (87%, $n = 174$; **Table 4**). More than the residents presumed that hypertension is an avoidable process of aging (59.5%, $n = 119$). With regards to their perceptions towards the most important factor in controlling their hypertension, the majority of residents opted more for medication use (58%, $n = 116$), followed by exercising (18%, $n = 36$) and changing their diet (7.5%, $n = 15$).

In this study, 30 caregivers were recruited and 66.7% ($n = 20$) of them reported to holding full responsibility in medication-related tasks, such as reminding the hypertensive residents to take their medication every morning or evening (**Table 5**). The majority of the caregivers (73.3%, $n = 22$) also agreed that it is their full responsibility to ensure that all medications are taken correctly. More than 96.7% ($n = 29$) of caregivers reported that they would ensure that residents have a balanced daily diet, but only 33% ($n = 10$) reminded the residents to exercise regularly. Nevertheless, the caregivers were not concerned with helping residents measure their blood pressure regularly (36.7%, $n = 11$).

Table 1. Socio-demographic characteristics of the residents ($n = 200$)

Variables	Total participants <i>n</i> = 200	Blood pressure		Statistics value	<i>p</i> value
		Under control (<140/90 mmHg) (<i>n</i> = 124)	Not controlled (>140/90 mmHg) (<i>n</i> = 76)		
<i>Gender</i>					
Male	95 (47.5)	58 (46.8)	37 (48.7)	$\chi^2 = 0.069$	<i>p</i> = 0.793
Female	105 (52.5)	66 (53.2)	39 (51.3)		
<i>Age (years), mean ± SD</i>					
40–59	70.6 ± 11.4	70.7 ± 11.3	70.5 ± 11.6	$\chi^2 = 0.137$	<i>p</i> = 0.934
60–79	116 (58.0)	71 (57.3)	45 (59.2)		
80–99	50 (25.0)	31 (25.0)	19 (25.0)		
<i>Ethnicity</i>					
Malay	32 (16.0)	15 (12.1)	17 (22.4)	$\chi^2 = 3.816$	<i>p</i> = 0.148
Chinese	146 (73.0)	94 (75.8)	52 (68.4)		
Indian	22 (11.0)	15 (12.1)	7 (9.2)		
<i>Education level</i>					
Illiteracy					
No formal education	69 (34.5)	48 (38.7)	21 (27.6)	$\chi^2 = 2.779$	<i>p</i> = 0.427
Primary school	59 (29.5)	33 (26.6)	26 (34.2)		
Secondary school	59 (29.5)	35 (28.2)	24 (31.6)		
Diploma, university or above	13 (6.5)	8 (6.5)	5 (6.6)		
<i>Body mass index (BMI)</i>					
Underweight (BMI <18.5)	25 (12.5)	15 (12.1)	10 (13.2)	$\chi^2 = 1.190$	<i>p</i> = 0.755
Normal weight (BMI 18.5–24.9)	116 (58.0)	74 (59.7)	42 (55.3)		
Overweight (BMI 25–29.9)	43 (21.5)	27 (21.8)	16 (21.1)		
Obese (BMI ≥30)	16 (8.0)	8 (6.5)	8 (10.5)		
<i>Duration of hypertension</i>					
1–10 years	151 (75.5)	98 (79.0)	53 (69.7)	$\chi^2 = \text{NA}$	NA
11–20 years	34 (17.0)	18 (14.5)	16 (21.1)		
21–40 years	7 (3.5)	2 (1.6)	5 (6.6)		
Could not remember	8 (4.0)	6 (4.8)	2 (2.6)		

Table 1. Socio-demographic characteristics of the residents ($n = 200$)

Variables	Total participants <i>n</i> = 200	Blood pressure		Statistics value	<i>p</i> value
		Under control (<140/90 mmHg) (<i>n</i> = 124)	Not controlled (>140/90 mmHg) (<i>n</i> = 76)		
Remember last blood pressure level					
Yes	17 (8.5)	11 (8.9)	6 (7.9)	$\chi^2 = 0.058$	<i>p</i> = 0.810
No	183 (91.5)	113 (91.1)	70 (92.1)		
Number of drugs taking for hypertension					
Not sure	17 (8.5)	11 (8.9)	5 (7.9)	$\chi^2 = 2.066$	<i>p</i> = 0.559
Monotherapy	117 (58.5)	71 (57.3)	46 (60.5)		
Dual therapy	55 (27.5)	33 (26.6)	22 (28.9)		
Triple therapy	11 (5.5)	9 (7.3)	2 (2.6)		
Number of comorbidities					
One comorbidity	80 (40.0)	54 (43.5)	26 (34.2)	$\chi^2 = 3.024$	<i>p</i> = 0.220
Multiple comorbidities	38 (19.0)	25 (20.2)	13 (17.1)		
None	82 (41.0)	45 (36.3)	37 (48.7)		
Smoking habit					
Smoker	30 (15.0)	16 (53.3)	14(46.7)	$\chi^2 = 1.125$	<i>p</i> = 0.289
Non smoker	170 (85.0)	108 (63.5)	62 (36.5)		
Having regular exercise					
Yes	93 (46.5)	61 (65.6)	32 (34.4)	$\chi^2 = 0.952$	<i>p</i> = 0.329
No	107 (53.5)	63 (58.9)	44 (41.1)		
Agree to healthy eating					
Yes	183 (91.5)	114 (62.3)	69 (37.7)	$\chi^2 = 0.080$	<i>p</i> = 0.778
No	17 (8.5)	10 (58.8)	7 (41.2)		

χ^2 = chi-square test; NA = not applicable.

Table 2. Hypertension knowledge among residents ($n = 200$)

Hypertension knowledge	n (%)
1. What does the term HYPERTENSION mean? High blood pressure High-level stress/tension Nervous condition Do not know	119 (59.5) 4 (2.0) 1 (0.5) 76 (38.0)
2. How dangerous is hypertension to your health? Extremely Somewhat Not at all Do not know	142 (71.0) 35 (17.5) 13 (6.5) 10 (5.0)
3. Would lowering high blood pressure improve a person's health? Yes No Somewhat Do not know	181 (90.5) 5 (2.5) 3 (1.5) 11 (5.5)

Table 2. Hypertension knowledge among residents ($n = 200$)

Hypertension knowledge	<i>n</i> (%)
4. What do the two numbers reported for blood pressure mean?	
Correctly replied for both top and bottom number	81 (40.5)
Do not know	119 (59.5)
5. What should normal blood pressure levels be?	
Top and bottom number (less than 140/90 mmHg)	65 (32.5)
Do not know	135 (67.5)
6. Which measure is more important?	
Top (systolic)	14 (7.0)
Bottom (diastolic)	5 (2.5)
Both (top and bottom)	40 (20.0)
Do not know	141 (70.5)
7. Can people do things to lower their blood pressure?	
Yes	173 (86.5)
No	18 (9.0)
Do not know	9 (4.5)

Table 3. Hypertension awareness among residents ($n = 200$)

Hypertension knowledge	<i>n</i> (%)
1. Did your doctor or health care provider tell you what your personal blood pressure reading should be?	
Yes	34 (17.0)
No	140 (70.0)
Do not know	26 (13.0)
2. Has a doctor or health care provider ever told you that the top number is important to keep under control?	
Yes	15 (7.5)
No	132 (66.0)
Do not know	53 (26.5)
3. Has a doctor or health care provider ever told you that the bottom number is important to keep under control?	
Yes	18 (9.0)
No	134 (67.0)
Do not know	48 (24.0)

Table 4. Residents' perceptions of hypertension ($n = 200$)

Hypertension knowledge	<i>n</i> (%)
1. How important do you think taking medicine is to keeping your blood pressure under control?	
Very important	162 (81.0)
Somewhat important	23 (11.5)
Not at all important	14 (7.0)
Do not know	1 (0.5)
2. Do you think that high blood pressure (hypertension) is a life-long disease?	
Yes	96 (48.0)
No	69 (34.5)
Do not know	35 (17.5)

Table 4. Residents' perceptions of hypertension ($n = 200$)

Hypertension knowledge	<i>n</i> (%)
3. Do you think that high blood pressure (hypertension) is something you can cure?	
Yes	73 (36.5)
No	93 (46.5)
Do not know	34 (17.0)
4. Do you think that changing your lifestyle can help to lower your blood pressure?	
Yes	174 (87.0)
No	13 (6.5)
Do not know	13 (6.5)
5. Do you think that high blood pressure (hypertension) is an avoidable part of ageing?	
Yes	119 (59.5)
No	54 (27.0)
Do not know	27 (13.5)
6. What is the most important factor in controlling your high blood pressure?	
Taking medicine	116 (58.0)
Exercising	36 (18.0)
Less stress	6 (3.0)
Change diet (salt)	15 (7.5)
Other: Quitting smoking, sleep well, rest	11 (5.5)
Do not know	16 (8.0)

Table 5. General characteristics of caregivers and their tasks related to resident's medication and hypertension management ($n = 30$)

Characteristic	<i>n</i> (%)
<i>Gender</i>	
Male	14 (46.7)
Female	16 (53.3)
<i>Age^a</i>	
18–30 years	9 (30.0)
31–40 years	5 (16.7)
41–50 years	6 (20.0)
More than 50 years	10 (33.3)
<i>Ethnicity</i>	
Malay	7 (23.3)
Chinese	14 (46.7)
Indian	7 (23.3)
Others: Philippine, Sri Lanka	2 (6.7)
<i>Duration of working^a</i>	
≤1 years	9 (30.0)
≤5 years	10 (33.3)
≤10 years	5 (16.7)
>10 years	6 (20.0)

Table 5. General characteristics of caregivers and their tasks related to resident's medication and hypertension management ($n = 30$)

Characteristic	<i>n</i> (%)
<i>Gender</i>	
Male	14 (46.7)
Female	16 (53.3)
<i>Age^a</i>	
18–30 years	9 (30.0)
31–40 years	5 (16.7)
41–50 years	6 (20.0)
More than 50 years	10 (33.3)
<i>Ethnicity</i>	
Malay	7 (23.3)
Chinese	14 (46.7)
Indian	7 (23.3)
Others: Philippine, Sri Lanka	2 (6.7)
<i>Duration of working^a</i>	
≤1 years	9 (30.0)
≤5 years	10 (33.3)
≤10 years	5 (16.7)
>10 years	6 (20.0)
<i>Education level</i>	
Illiteracy/No formal education	2 (6.7)
Primary school	7 (23.3)
Secondary school	11 (36.7)
Diploma, university or above	10 (33.3)
<i>Medication-related tasks</i>	
1. Who remembers them to take morning medicines?	
Patients herself or himself	3 (10.0)
Caregiver fully responsibility	20 (66.7)
Patients and caregiver share responsibility	7 (23.3)
2. Who remembers them to take evening medicines?	
Patients herself or himself	3 (10.0)
Caregiver fully responsibility	20 (66.7)
Patients and caregiver share responsibility	7 (23.3)
3. Who makes sure medicines taken properly?	
Patients herself or himself	3 (10.0)
Caregiver fully responsibility	22 (73.3)
Patients and caregiver share responsibility	5 (16.7)
4. Who makes sure medicines taken enough?	
Patients herself or himself	3 (10.0)
Caregiver fully responsibility	22 (73.3)
Patients and caregiver share responsibility	5 (16.7)

Characteristic	n (%)
<i>Hypertension management tasks</i>	
1. Who makes sure them to exercise regularly?	
Patients herself or himself	4 (13.3)
Caregiver fully responsibility	10 (33.3)
Patients and caregiver share responsibility	10 (33.3)
Both are not concern	6 (20.0)
2. Who makes sure their diet is balanced daily?	
Patients herself or himself	0 (0.0)
Caregiver fully responsibility	29 (96.7)
Patients and caregiver share responsibility	1 (3.3)
Both are not concern	0 (0.0)
3. Who makes sure to measure their blood pressure regularly?	
Patients herself or himself	3 (10.0)
Caregiver fully responsibility	13 (43.3)
Patients and caregiver share responsibility	3 (10.0)
Both are not concern	11 (36.7)

^aThe mean $\pm$ SD age of caregivers was 41.7 ± 14.036 with range 18 to 71 years, and they were working for 6.2 ± 7.4 years with a range of 3 months to 28 years.

Discussion

In this study, the majority of the hypertensive residents were found to have controlled blood pressure. Hypertension is common in older patients and studies have highlighted the high prevalence of hypertension among people in nursing home facilities.^{15,16} Although the majority of hypertensive patients require pharmacological intervention to adequately control their blood pressure, life-style interventions should be put as the first-line strategy for the management of all persons with hypertension. For example, smoking cessation should be emphasised as it has been proven to decrease the blood pressure level and lower the heart rate.^{17,18} Also, most of the residents in this study showed high awareness towards the importance of a healthy diet and reducing sodium intake, their efforts in diet modifications could be limited as a resident's daily diet was regulated by the caregivers. Based on our study, hypertensive residents believed that hypertension is a life-long disease that cannot be cured; thus, they trusted that changing their lifestyles could help lower their blood pressure and improve their health condition.

Most of the residents had a basic general knowledge of hypertension but were lacking specific knowledge. They believed that self-management is possible in lowering their high blood pressure. This finding is similar with the study done by Oliveria et al.¹³ who

reported that this population possess high knowledge and awareness about hypertension, yet patients do not have a comprehensive understanding of this condition. Awareness and treatment are important conditions for controlling hypertension. For example, it is most important to keep systolic blood pressure under control as this can reduce the risk of myocardial infarction, stroke and heart failure.¹⁹ However, most of the residents in our study were not able to determine which blood pressure measurement is more important in controlling their hypertension.

In this study, residents in nursing homes showed high dependency on their caregivers in managing their disease. This study demonstrated that caregivers played an important role in medication management. The dose and frequency of the antihypertensive medicines were fully controlled by caregivers and they also ensured that medication was taken daily. However, the contrary, most of caregivers were not concerned in helping residents to monitor their blood pressure regularly due to the lack of time and limited knowledge about the correct technique of using home blood pressure monitoring. Blood pressure is one of the vital signs for management of hypertension and proper training of skills and techniques are essential to improve the accuracy of blood pressure measurement.²⁰ Hence, the residents-caregiver relationship is crucial in helping residents to manage their hypertension.

Most caregivers were found to possess limited knowledge about medication, especially on side effects and their management.²¹ The caregivers require a better understanding of the aging process and how it may affect the resident's health. An educational program would help the caregivers to handle the disease and medication. Such educational programs have been started in a few developed countries and shown to benefit both residents and caregivers.²² Most of the caregivers agreed to the idea of participating in training and education programs to increase quality of care in older people, but some of them refused the training due to lack of time, energy and influenced by residents' age.²³ The hassles of medication administration should be noticed, especially when the resident is taking multiple medications several times a day.²⁴ Therefore, the educational program should also incorporate interventions to reduce the burden and distress of caregivers with intention to improve the medication management.

Conclusion

Hypertension control is good in older people under nursing home care, which could be attributed to their level of knowledge, attitude and perception of this chronic disease. The development of an educational program involving hypertensive residents and their caregivers in nursing homes would be beneficial in improving the self-management of hypertension in the residents.

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Conflict of interest

The authors have no conflict of interest to disclose.

How does this paper make a difference to general practice?

- The majority (62%) of hypertensive residents in nursing home care have controlled blood pressure.
- These hypertensive residents in nursing home care have good knowledge, attitude and perception of hypertension.
- The residents in nursing homes were highly dependent on their caregivers for the management of their hypertension.

References

1. Rampala L, Rampal BS, Azharc MZ, et al. Prevalence, awareness, treatment and control of hypertension in Malaysia: A national study of 16,440 subjects. *Public Health*. 2008;122(1):11–8.
2. Lim KH, Ho BK, Kaur J, et al. Prevalence, awareness, treatment and control of hypertension among the aged person: the 2006 National Health and Morbidity Survey III in Malaysia. *Med J Malaysia*. 2006;68(4):332–7.
3. Gu QP, Burt VL, Dillon CF, et al. Trends in antihypertensive medication use and blood pressure control among United States adults with hypertension: the National Health and Nutrition Examination Survey, 2001 to 2010. *Circulation*. 2012;126:2105–14.
4. Wijeyundera HC, Machado M, Farahati F, et al. Association of temporal trends in risk factors and treatment uptake with coronary heart disease mortality, 1994–2005. *JAMA*. 2010;303(18):1841–7.
5. Cordero A, Bertomeu-Martinez V, Mazon P, et al. Factors associated with uncontrolled hypertension in patients with and without cardiovascular disease. *Rev Esp Cardiol*. 2011;64(7):587–93.
6. Neutel CI, Campbell NRC. Changes in lifestyle after hypertension diagnosis in Canada. *Can J Cardiol*. 2008;24(3):199–204.
7. Barlow J, Wright C, Sheasby J, et al. Self-management approaches for people with chronic conditions: a review. *Patient Educ Couns*. 2002;48(2):177–87.
8. Chobanian AV, Bakris GL, Black HR, et al. National Heart, Lung, and Blood Institute Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; National High Blood Pressure Education Program Coordinating Committee. 2003. The seventh report of the Joint National Committee on prevention, detection, evaluation, and treatment of high blood pressure: the JNC 7 report. *JAMA*. 2003;289(19):2560–72.
9. Charlson ME, Wells MT, Peterson JC, et al. Mediators and moderators of behavior change in patients with chronic cardiopulmonary disease: the impact of positive affect and self-affirmation. *Transl Behav Med*. 2014;4(1):7–17.

10. Warren-Findlow J, Seymour RB, Brunner Huber LR. The association between self-efficacy and hypertension self-care activities among African American adults. *J Community Health*. 2012;37(1):15–24.
11. McDonald M, Robin PH, Unger AN, et al. Prevalence, awareness, and management of hypertension, dyslipidemia, and diabetes among United States adults aged 65 and older. *J Gerontol A Biol Sci Med Sci*. 2010;64A(2):256–63.
12. Yadlapalli K, Gupta SK, Pandav CS. Knowledge and perceptions about hypertension among neo- and settled-migrants in Delhi, India: a qualitative study. *BMC Public Health*. 2009;4(2):119–29.
13. Oliveria SA, Chen RS, McCarthy BD, et al. Hypertension knowledge, awareness and attitudes in a hypertensive population. *J Gen Intern Med*. 2005;20(3):219–25.
14. Erichsen NB, Bussing A. Spiritual needs of aged person living residential/nursing homes. *Evid Based Complement Alternat Med*. 2013;1–10.
15. Trilling JS, Froom J, Gomolin IH, et al. Hypertension in nursing home patients. *J Hum Hypertens*. 1998;12(2):117–21.
16. Welsh T, Gladman J, Gordon AL. The treatment of hypertension in care home residents: a systematic review of observational studies. *J Am Med Dir Assoc*. 2014;15(1):8–16.
17. Takami T, Saito Y. Effects of smoking cessation on central blood pressure and arterial stiffness. *Vasc Health Risk Manag*. 2011;7:633–38.
18. Appel LJ. ASH position paper: dietary approaches to lower blood pressure. *J Am Soc Hypertens*. 2010;4(2):79–89.
19. Izzo JL, Levy D, Black HR. Importance of systolic blood pressure in older Americans. *Hypertension*. 2000;35:1021–4.
20. Frese EM, Fick A, Sadowsky HS. Blood pressure measurement guidelines for physical therapists. *Cardiopulm Phys Ther J*. 2011;22(2):5–12.
21. Jones KR, Fink R, Pepper G, et al. Improving nursing home staff knowledge and attitudes about pain. *Gerontologist*. 2004;44(4):469–78.
22. Monette J, Champoux N, Monette M, et al. Effect of an interdisciplinary educational program on antipsychotic prescribing among residents with dementia. *Int J Geriatr Psychiatry*. 2008;23(6):574–9.
23. Haggstrom E, Bruhn A. Caregivers' attitudes to education and supervision in work with the older people in a nursing home. *Nurse Educ Today*. 2009;29:850–4.

Post-treatment impact and needs of prostate cancer survivors in Malaysia; a qualitative study

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Abstract

Introduction and Objectives There are limited studies conducted on the needs of cancer survivors in developing countries like Malaysia. This qualitative study aimed at exploring the post-treatment impact and needs of prostate cancer survivors.

Method: A qualitative study design was used. One in-depth interview and four focus group discussions were conducted with 24 prostate cancer survivors (age range: 58–79 years) from government and private hospitals in Malaysia in 2013. Trained researchers used a topic guide to guide the interviews, which were audio-recorded, transcribed verbatim, checked and managed with Nvivo 10 software. A thematic approach was used to analyse the data.

Result: Three main themes emerged from the analysis: (a) impact of prostate cancer on the survivors, (b) support needed for coping and (c) information needs. Prostate cancer has an important impact on the survivors' lifestyle after treatment. Some of them have to live with the post-treatment side effects. They were anxious about the possibility of relapse. In addition to family and peer support, there were participants who felt that spiritual support was important in helping them cope with the possibility of relapse. The survivors felt that they did not receive enough information about post-treatment care, dietary measures and supplements for relapse prevention, treatment and prognosis.

Conclusion: Prostate cancer has a significant impact on the survivor's lifestyle, emotional and physical health. They need information and emotional support from the healthcare professionals, family and peers. Therefore, it is important for healthcare providers to explore the needs of prostate cancer survivors and provide the necessary support.

Introduction

Prostate cancer is the second most common cancer diagnosed in males worldwide, and it accounts for 15% of all cancers in the male population.¹ In Malaysia, prostate cancer is the fourth most common cancer among the male population.² Although it is common, it has a relatively low mortality rate compared to other cancers.¹ Hence most prostate cancer survivors live with the disease for many years. More studies are focused on patients with prostate cancer before or during treatment rather than the survivors. Therefore, it is important to study the impact of prostate cancer and its treatment on the survivors' lives in terms of side effects, psychosocial implication and quality of life. This is more relevant to primary care physicians as prostate cancer survivors may be on follow-up in general practice for other co-morbidities.

The needs of cancer survivors have been explored in many studies, and they include needs related to psychology, health system and information, physical and daily living, patient care and support, and sexuality.³ However, most of these studies were done in developed countries and only a few studies have reported the impact and needs for prostate cancer survival in developing countries like Malaysia, which has a diverse culture and lower health literacy.^{4–6} In addition, Malaysia has a much lower prevalence of prostate cancer (6.2 per 100,000 population age-adjusted incidence rate) compared with a developed country like the United States of America (160 per 100,000 population age-adjusted incidence rate).^{2,7} Healthcare professionals and the healthcare system are thus less equipped with the skills and knowledge require to support the needs of prostate cancer survivors. Hence, this qualitative study aimed at exploring the post-treatment impact and needs of prostate cancer survivors.

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Methods*Design, setting, participants, recruitment and sampling*

A qualitative methodology was used to explore the range of post-treatment impact and needs of prostate cancer survivors.^{8–10} This study recruited prostate cancer survivors from both public and private hospitals in Klang Valley between January and April 2013. The participants were identified through linkage with the prostate cancer support group of the National Cancer Society and by the recommendations of urologists in Klang Valley. Purposive sampling was used to identify prostate cancer survivors from different ethnicities, education levels, health sectors and those who had chosen a range of treatment options. Sampling and analysis were conducted iteratively until thematic saturation. The analyses were done after each focus group discussion till no new theme emerged. Issues that were raised were incorporated into subsequent focus group discussions. For example, use of complementary and alternative medicine to prevent relapse was raised in the first focus group discussion and this issue was incorporated into the interview guide for the later groups.

Data collection

In-depth interviews and focus group discussions were conducted using a topic guide. The development of the interview topic guide was guided by a conceptual framework developed from literature review and consultation with experts. The focus groups were organised according to the patient's duration of cancer from the onset of disease (1–5 years and more than 5 years post diagnosis of prostate cancer) to facilitate discussion based on shared experience.¹¹ The single individual in-depth interview was conducted separately with a prostate cancer survivor who was also an influential national leader in the prostate cancer patient's support group to avoid his opinion influencing the rest of the participants in a focus group. This key person is a national leader and founder of the national prostate cancer patient's support group. He had more than 10 years of experience in developing and chairing various prostate cancer patient's support groups meetings in private and government

hospitals around Klang Valley. Open-ended questions were used during the interview, and prompts were only used if the critical issues did not emerge spontaneously. Prostate cancer survivors were asked about the impact of the disease on them and their needs.

The participants were informed that their data would be anonymised and kept confidential. Written consent was obtained from the participants. Four experienced researchers (PYL, CJN, KLA and ATC), comprising three family physicians and one nursing lecturer, conducted the interviews. An assistant took field notes on non-verbal cues and interview dynamics. All interviews were audio-recorded and transcribed verbatim. The transcripts from the in-depth interviews and focus group discussions as well as field notes were used in the analysis.

Data analysis

A descriptive thematic approach was used for data analysis.¹² Two researchers (PYL, CJN) coded two transcripts independently, creating a list of free nodes. The free nodes were later merged to form larger categories and the categories were merged to form the main themes. This framework was subsequently used by three independent researchers (YKL, ATC, KLA) to code the same two transcripts. All researchers were involved in the analysis discussion and consensus was on the final list of nodes, categories and themes with their descriptions. This final list of revised nodes, categories and themes was imported into Nvivo 10 software and it served as the framework for coding the rest of the transcripts. New themes that emerged during coding of the remaining transcripts were added to the list with the consensus of all research team members. consensus could not be reached, an independent researcher (TAO) who had not participated in the analysis was asked to analyse the data. For the results, all quotations were screened and those that best captured the essence of the themes were extracted. Reflection and open discussion were used by the researchers throughout the interviews and analyses to reduce possible biases in data collection and interpretation. This study is a part of larger project to develop a patient decision aid to support patients with early prostate cancer in making treatment decisions.

Ethical approval

This study obtained ethical approval from the Medical Research and Ethics Committee of the Ministry of Health, Malaysia. (KKM/NIHSEC/08/0804/P12-735).

Results

One in-depth interview and four focus group discussions were conducted with 24 prostate cancer survivors (age range: 58–79 years) from government and private hospitals in Malaysia. Each interview lasted approximately 60 to 90 minutes. The demographic data and disease profile of the participants are shown in **Table 1**.

Table 1. Demographic data and disease profile of patients

Demographic or disease profile	Categories of demographic or disease profile	Number of participants = 24 (%)
Age (years)	56–65	6 (25.0)
	66–75	15 (62.5)
	>75	3 (12.5)
Ethnicity	Chinese	16 (66.7)
	Indian	6 (25.0)
	Malay	2 (8.3)
Education level	Primary	1 (4.1)
	Secondary	4 (16.7)
	Diploma	6 (25.0)
	University	13 (54.2)
Treatment decision	Radiotherapy	12 (50.0)
	Surgery	10 (41.7)
	Active	2 (8.3)
	Surveillance	
Years since diagnosis	1–5 years	15 (62.5)
	>5 years	9 (37.5)

Three main themes emerged from the analysis: (a) impact of prostate cancer on the survivors, (b) support needed for coping and (c) information needs.

(a) Social, emotional and physical impact on survivors

Change of lifestyle

Most patients changed their lifestyle after treatment. They became very careful with their diet, intake of organic food, regular exercise, using alternative medicine, avoiding alcohol and maintaining better sleep habits.

“If not for prostate cancer, most probably

I’d be drinking and enjoying myself! Now I changed my lifestyle, food, friendship, sleeping habits.” 73 years old, diagnosed prostate cancer 12 years ago.

Anxious about cancer relapse

Most patients expressed anxiety and uncertainty about the possibility of relapse. In addition, they felt that healthcare professionals did not give enough emotional support to them.

“Then after another year, 3rd time, it (PSA) went to 19. And that time I got worried. And then they first said no need to do biopsy because you are already old or you may die. That’s what they always say which is a bad thing to tell a patient, you know.” 79 years old, diagnosed prostate cancer 23 months ago.

Living with post treatment side-effects

Some survivors had to live with the long-term post-treatment side effects such as strictures and urinary incontinence. It was troublesome and caused distress. However, erectile dysfunction seemed to be less of a bother to them.

“Yes, yes ... not exactly difficult, it’s slow, the stream is slow. See, since the stream is slow, he felt that I should ... because they’ve been asking me to use the self-insertion catheter, daily, you know. In the beginning, I was doing it nicely, you know, a self-insertion catheter, where you insert a catheter in the morning, and then you take out the urine, you know. Of course, the advice was a wonderful advice, but it’s very troublesome.” 73 years old, diagnosed prostate cancer 12 years ago.

“Now I come in to clinic I’m still wearing a diaper. You see, cannot control. Day time is difficult. I leak when I cough, I sneeze, I blow my nose. Or I sit too long.” 74 years old, diagnosed prostate cancer 14 months ago.

“(When discussing about erectile dysfunction) But then my wife said that sex is secondary. She said I want you to live, we are not bothered, you are already old. Not so keen on that thing.” 75 years old, diagnosed prostate cancer 6 and a half years ago.

(b) Support needed for coping*Family and social support*

Support from friends, family and support group helped patients cope with their cancer and treatment. The support were important in helping them come to terms with their cancer and motivated them to fight against the disease to continue living.

"Family level. My wife of course I told the family and all, a lot of sympathy here and there, wife quiet. Children completely, you know, not sure. But my daughter was very positive. She didn't tell me good or not good, she just gave me a book, 'dad, read this.' Because I'm a sports person. So I looked at it what is this book? Lance, the cyclist, Armstrong, Lance Armstrong, the victory and all he was fighting testicular cancer and all that. So I read that book, very happy. Because she was telling me in another way that it's okay, fight it." 68 years old, diagnosed prostate cancer 3 years ago.

This particular group (cancer support group) is the one that put me back on the right track. Alright. They told me you don't withdraw after you are diagnosed, you continue living the life you want." 58 years old, diagnosed prostate cancer 5 years ago.

Spiritual support

In addition, most of them resorted to spiritual support to help them cope with uncertainty. They surrendered their health outcomes to divine protection or purpose.

"I mean hopefully it (relapse of cancer) will not come also. I don't know, maybe like actually, I think a lot of cancer patients, inside their heart, they feel, just see what is it like, there's nothing much we can do. Leave our fate to God like he says. You know. Just pray more and leave it to God. Because this is one sickness whereby there's no actual cure yet." 58 years old, diagnosed prostate cancer 5 years ago.

(c) Information needs*Information about cancer relapse*

Patients felt that they did not receive enough information from the doctors about cancer relapse and prognosis. They were not given information about relapse prevention and its best treatment option.

"What we want to know is relapse. You see, we are back to square one again. When we relapse, again there are so many routes, one you have abiraterone, zytiga (hormone therapy), you have all these types of things coming in. What is the best? So that part is lacking. Also how to prevent relapse" 69 years old, diagnosed prostate cancer 2 years ago.

Diet and supplements

Patients wanted to know more about suitable diet, vitamins and supplements after treatment to prevent relapse and to improve their health. However, most doctors would just give general advice about balanced diet. Some survivors used complementary and alternative medicine to prevent relapse.

"(about prevention of relapse) Don't believe in doctors, they say the food you eat is good enough. What kind of food we're eating we don't know! Oh, they said balanced diet. I don't believe in all these balanced diet, I just pop in some vitamins ..." 73 years old, diagnosed prostate cancer 12 years ago.

"Yeah I avoid seafood and I take supplements. Recently I take the 'snake leaf', one green apple and a glass of tomato juice. ... Snake grass is good for people who have cancer, so I just want to be double sure (to prevent relapse), I also take supplement like energy powder and organic oat, and lemon juice from US (United State), I also take another one, the named start with E, it's a type of juice, white colour." 77 years old, diagnosed prostate cancer 5 years 42 months ago.

Status of disease after treatment

Some patients felt that doctors did not explain clearly about the status of their disease after treatment. They wanted to know the outcome of the treatment and the next steps.

"After my treatment (radiotherapy). I called Dr. XX. What is the results now? I meant tell me what's stage. I say, I spend 35 times (number of times for radiotherapy) you know and I want to know,' he can't tell me exactly," 72 years old, diagnosed prostate cancer 1 year ago.

Discussion

This study provides an overview of the post-treatment impact on patients and needs for prostate cancer survivors in Klang Valley, Malaysia. The three main themes that emerged from this study are: (a) impact of prostate cancer on the survivors (change of lifestyle, living with post-treatment side effects and anxious about relapse), (b) support needed for coping (family, social and spiritual) and (c) information needs (post-treatment care, relapse prevention, diet, treatment and prognosis). These findings were similar to those from developed countries. This could be because the study participants were from well-educated urban population; hence, they may have a similar thinking process and knowledge with patients from developed countries.

The impact of the disease and treatment on prostate cancer survivors in this study were similar to those from western countries, where the survivors reported that they have to live with post-treatment side effects, were anxious about cancer relapse and forced themselves to change their lifestyles to prevent relapse.^{13–15} Prostate cancer survivors have a higher level of psychological distress due to issues, such as urinary incontinence, bowel changes, fatigue, pain, hot flushes, body image changes and forced lifestyle changes.^{13–15} The elevation of PSA tumour marker that may indicate relapse of cancer can be a significant source of anxiety for the prostate cancer survivors.¹³ However, in contrast to the findings of most studies,^{16–18} male patients in this study seemed to be less bothered about the surgical complication of erectile dysfunction. This may be related to the Asian culture and belief where traditionally, older people are not expected to have active sex lives. Hence older people are

more prepared to live with sexual dysfunction as they perceived it as being a part of the normal ageing process.^{19–20}

Similar to other studies,^{21–24} we found that family, social, religious and peer support were viewed by the participants as important reinforcements that help them to cope with their psychological needs. Spiritual or religious support was important to help them cope with the uncertainty of a relapse. Spirituality and religion for the coping of cancer survivors has been increasingly recognised among survivors. When patients have to deal with uncertainty, religious system which is usually integrated in the patient's social and cultural context may offer a more acceptable explanation for their disease.^{22,25} In a qualitative study by Aquino et al.,²² religion was viewed as playing a role in helping patients to gain new strength in the fight for survival and as a solution to their uncertainty. Hence, it is important for health professionals to be aware of and consider the importance of religiosity while planning and delivering care to cancer survivors. This will help to maintain trust and respect in relation to the patients' religious beliefs.²² This is especially relevant in a multi-cultural and multi-ethnic society like Malaysia.

In this study, it was found that information needs were not fulfilled. The main gaps in information needs include post-treatment care, relapse prevention, diet, treatment and prognosis. Similarly, other studies have reported unmet information needs for post-treatment care, relapse prevention, treatment and prognosis.^{3,26,27} More pertinent to Asian cultural beliefs, cancer survivors in this study demanded more information about diet and supplements to prevent relapse. Most patients were not fully satisfied with general advice about balanced diet and nutrition; they wanted more information on ways to prevent cancer recurrence. Some of them resorted to trying alternative medicines. The use of complementary and alternative medicine (CAM) is common among cancer survivors.^{28,29} A review on the role of CAM therapies in the management of cancer has reported that CAM being used to "complement" the conventional therapies of radiotherapy, chemotherapy, hormone therapy and surgery can contribute to improving the quality of life of cancer patients and their general well-being.²⁹ However, there may be drug interactions between complementary and alternative medicine with patient's medications.³⁰ Healthcare professionals

should discuss these issues with patients who are considering complementary and alternative medicine, address their concerns and provide unbiased information to them.

The strength of this study is that we recruited participants from all ethnic groups who had prostate cancer from 1 to 13 years. However, we did not collect any data from patients who are from the more rural area. Future studies may need to look into the perspective of patients from a rural area as their needs may differ. In addition, the data of this study are mainly from focus group discussions as this will facilitate the participants to discuss shared experience; however, this method may hinder participants to raise certain issues that may be sensitive or personal. Future study may need to involve more in-depth interviews to explore certain personal issues.

This study found that prostate cancer survivors' lifestyle, emotional and physical health were affected after cancer treatment. They need information and emotional support from

healthcare professionals, family and peers. This study highlights the important role of a healthcare provider in exploring and addressing the needs of prostate cancer survivors and supporting them throughout their illness.

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Conflicts of interest

Nil

How does this paper make a difference to general practice?

- Prostate cancer survivors need information and emotional support from healthcare professionals, family and peers. However, there are gaps in the provision of these needs.
- Primary care physicians can play an important role in exploring and addressing the needs of prostate cancer survivors and supporting them throughout their illness.

References

1. Ferlay J, Soerjomataram I, Ervik M, et al. GLOBOCAN 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC Cancer Base No. 11. Lyon, France: International Agency for Research on Cancer, 2013. Available at: http://globocan.iarc.fr/Pages/fact_sheets_population.aspx Accessed August, 2016.
2. Ministry of Health Malaysia: Malaysia Cancer Statistics: Data and Figure, National Cancer Registry Report 2007. Putrajaya: Ministry of Health Malaysia, 2007.
3. Sanson-Fisher R, Girgis A, Boyes A, et al. The unmet supportive care needs of patients with cancer. Supportive Care Review Group. *Cancer*. 2000;88(1):226–37.
4. Population and Housing Census of Malaysia: *Population Distribution and Basic Demographic Characteristics* 2010: Putrajaya: Department of Statistics Malaysia.
5. Mohamad MS, Zabidah P, Fauziah I, et al. Mental health literacy among family caregivers of schizophrenia. *Asian Soc Sci*. 2012;8(9):74–82.
6. Norhafizah S, Siti Zuraidah M, Riyanti S, et al. Medication labeling literacy among Malaysian with diabetes: a cross-sectional study. *J Diabetes Res Clin Metab*. 2012. Available at: <http://www.hoajonline.com/journals/pdf/2050-0866-1-23.pdf>. Accessed October, 2016.
7. Jemal A, Siegel R, Ward E, et al. Cancer statistics, 2008. *CA Cancer J Clin*. 2008;58(2):71–96.
8. Bogdan R, Taylor SJ. *Introduction to Qualitative Research Methods*. New York: John Wiley; 1975.
9. Pope C, Mays N. Reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research. *BMJ*. 1995;311(6996):42–5.
10. Patton MQ. *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (4th ed.). Thousand Oaks, CA: Sage; 2015.
11. Kitzinger J. Qualitative research. Introducing focus groups. *BMJ*. 1995;311(7000):299–302.
12. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101.

13. Roth AJ, Weinberger MI, Nelson CJ. Prostate cancer: psychosocial implications and management. *Future Oncol.* 2008;4(4):561–8.
14. Northouse LL, Mood DW, Montie JE, et al. Living with prostate cancer: patients' and spouses' psychosocial status and quality of life. *J Clin Oncol.* 2007;25(27):4171–7.
15. Blanchard CM, Denniston MM, Baker F, et al. Do adults change their lifestyle behaviors after a cancer diagnosis? *Am J Health Behav.* 2003;27(3):246–56.
16. Shabsigh R, Klein LT, Seidman S, et al. Increased incidence of depressive symptoms in men with erectile dysfunction. *Urology.* 1998;52(5):848–52.
17. Araujo AB, Durante R, Feldman HA, et al. The relationship between depressive symptoms and male erectile dysfunction: cross-sectional results from the Massachusetts Male Aging Study. *Psychosom Med.* 1998;60(4):458–65.
18. Nicolosi A, Moreira ED, Jr., Villa M, et al. A population study of the association between sexual function, sexual satisfaction and depressive symptoms in men. *J Affect Disord.* 2004;82(2):235–43.
19. Winn RL, Newton N. Sexuality in aging: a study of 106 cultures. *Arch Sex Behav.* 1982;11(4):283–98.
20. Ho CC, Singam P, Hong GE, et al. Male sexual dysfunction in Asia. *Asian J Androl.* 2011;13(4):537–42.
21. Fordice A. Support groups for improving quality of life in men with prostate cancer. *School of Physician Assistant Studies*, 2014;486:2.
22. Aquino VV, Zago MMF. The meaning of religious beliefs for a group of cancer patients during rehabilitation. *Rev Latino-am Enfermagem.* 2007;15(1):42–7.
23. Mehnert A, Lehmann C, Graefen M, et al. Depression, anxiety, post-traumatic stress disorder and health-related quality of life and its association with social support in ambulatory prostate cancer patients. *Eur J Cancer Care.* 2010;19(6):736–45.
24. Farooqui M, Hassali MA, Shatar AK, et al. A qualitative exploration of Malaysian cancer patients' perspectives on cancer and its treatment. *BMC Public Health.* 2011;11:525.
25. Yew WCV, Er AC, Noor Azlan MN. Chinese culture and cancer among Malaysian Chinese cancer survivors. *Asian Soc Sci.* 2013;9(14):30–41.
26. Beckjord EB, Arora NK, McLaughlin W, et al. Health-related information needs in a large and diverse sample of adult cancer survivors: implications for cancer care. *J Cancer Surviv.* 2008;2(3):179–89.
27. Rutten LJ, Arora NK, Bakos AD, et al. Information needs and sources of information among cancer patients: a systematic review of research (1980–2003). *Patient Educ Couns.* 2005;57(3):250–61.
28. Scott JA, Kearney N, Hummerston S, et al. Use of complementary and alternative medicine in patients with cancer: a UK survey. *Eur J Oncol Nurs.* 2005;9(2):131–7.
29. Adams M, Jewell AP. The use of complementary and alternative medicine by cancer patients. *Int Semin Surg Oncol.* 2007;4:10.
30. Fugh-Berman A. Herb-drug interactions. *Lancet.* 2000;355(9198):134–8.

Intra-aural tick resulting in facial nerve paresis

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Abstract

The presence of a tick in the ear is an uncommon problem encountered by the department of otorhinolaryngology. A tick infestation in the ear can be a traumatising experience for the patient. Here, we report a case of a woman who presented with left facial weakness due to the presence of a tick in the external auditory canal.

Introduction

Ticks, which are most commonly found in the domestic animals, may present as a foreign body in the external auditory canal of the human ear. This infestation of the ear is also known as otoacariasis. Patients with this manifestation usually present to the accident and emergency department with otalgia. If left untreated, it can lead to ear infection, cranial nerve involvement and even mortality.¹

Case summary



Figure 1. Left-sided facial nerve palsy

A 61-year-old lady was referred to the accident and emergency department with a history of left ear pain associated with foreign body sensation and left facial weakness for 4 days. She provided a history of contact with a cat the day before the onset of the symptoms. The pain was dull and aching without any ear discharge. Three days following the onset of otalgia, her daughter noticed that she was unable to close her left eye completely and

there was left facial asymmetry. There was no history of fever, vomiting, blurring of vision or reduced hearing.

While examining the patient, we noted that she was unable to close her left eye completely. There was loss of wrinkles over her left forehead, and the angle of her mouth was deviated towards the opposite side. The facial nerve palsy was graded as House–Brackmann grade II. On examination using an otoscope, the left external auditory canal was filled with cerumen, which was suctioned out carefully. Following removal of the cerumen, tick faeces were seen in the ear canal close to the tympanic membrane. A well-visualised tick was seen attached to the posterior superior quadrant of the tympanic membrane. The tympanic membrane appeared inflamed. The opposite ear was normal with an intact tympanic membrane. The ear was then examined using a microscope and the visualised tick was removed using a crocodile's forceps. A small perforation with minimal bleeding

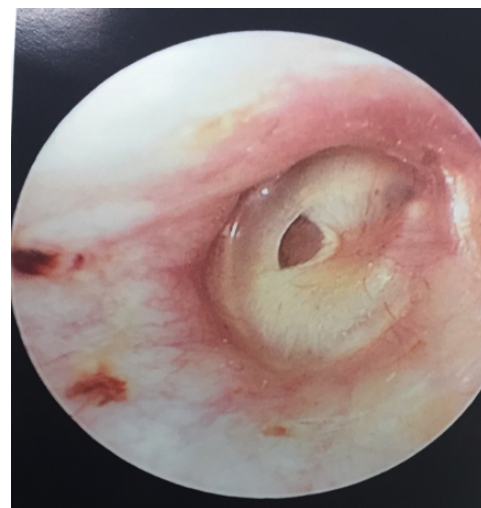


Figure 2. Left tympanic membrane perforation after tick removal

was observed following removal of the tick. After a while, the bleeding subsided and the external auditory canal was rinsed thoroughly with normal saline.

The patient was given oral prednisolone 20 mg three times a day with a tapering dose for 2 weeks and ofloxacin 0.3% eardrops three times a day for a week. She was also advised to keep her ears dry. Four weeks after the treatment, her facial nerve weakness completely resolved with a healed tympanic membrane.

Discussion

Removing a foreign object stuck in the ear is a common procedure encountered by the otolaryngologists. The foreign objects include beads, cotton buds, small parts of a toy and even insects of varying sizes and shapes. Their lodgement in the ear canal may cause some degree of discomfort and even unwanted complications. Domestic animals and pets are the natural environment for ticks and mites to live. These parasites may reside in humans when there is a direct contact of humans with these animals. There are many varieties and subspecies of ticks. They can be broadly classified into hard ticks (ixodidae) and soft ticks (argasidae). The difference between the hard tick and the soft tick is that the hard tick possesses a hard shield or scutum whereas the soft tick does not.² Foreign bodies in the ear involving ticks has been widely documented in countries such as India, Sri Lanka, Nepal, South Africa, Chile and Malaysia.³ These blood sucking parasites feed from a wide variety of animals, especially mammals and birds. They are transmitted to humans through direct contact between humans and domestic pets. They can easily attach to body parts by using their hooked front legs.

The most common complication of tick manifestation is otalgia, which accounts for almost 90% of cases, followed by bleeding (10%), giddiness (5%), tinnitus (5%) and facial paresis (5%).³ This condition occurs in all age groups.³ Facial nerve paresis may occur due to the release of neurotoxin present in the tick's saliva. Usually, female ticks are the main culprit in secreting these neurotoxins.⁴

To date, there are many theories that explain the pathophysiology of localised facial nerve palsy caused by intra-aural tick infestation. Nager and Proctor stated that congenital

bony dehiscence in facial canal is seen in almost 55% of the temporal bones,⁵ and the explanation given is that the tick saliva may invade the facial nerve resulting in paresis through this bony dehiscence. The presence of canal dehiscence is more commonly observed in the tympanic segment of the facial nerve.¹ This dehiscence provides a direct access to the tick toxins.¹ As the toxin reaches the facial nerve, it causes inflammation and oedema resulting in nerve paresis.¹

Removing an intra-aural tick can be a painful experience for the patient especially in children. Removal of an intra-aural tick can be even more complicated when the ear canal is narrowed and swollen due to multiple attempts of removal by unskilled medical personnel as well as the bite of the tick itself causing injury.⁶ Removal of the intra-aural tick should only be attempted if there are adequate facilities and in the presence of trained medical personnel.

There are several techniques by which an intra-aural tick can be removed. It can either be removed manually using a forceps or by applying a noxious stimulus, which allows the tick to fall off.⁶ Preparations such as liquid paraffin and sodium bicarbonate are also used to aid tick removal. Using a blunt, medium tip angled forceps followed by an application of antiseptic solution is the ideal method to remove a tick.⁷ Some literature suggested that by grasping the tick close to the skin surface while applying a gentle traction using a curved forceps or a tweezers safely releases the tick along with its mouthparts.¹ For uncooperative children, it is advisable to remove the tick under general anesthesia to reduce the burden of trauma and prevent further complications.

There are various options available for the treatment of facial nerve paresis. The use of corticosteroid therapy is the most preferred choice of treatment.⁸ Oral corticosteroids are usually prescribed to lessen nerve inflammation hence preventing further damage. While the usage of corticosteroids for the treatment of Bell's palsy and herpes zoster oticus has been shown to be beneficial, its effectiveness in the treatment of tick-induced facial nerve paresis remains unproven. Oral prednisolone is usually given for 10 days with tapering doses beginning with 60 mg per day in divided doses.⁹ This dosing regime

enhances the anti-inflammatory action while reducing its side effects.

Conclusion

The presence of an intra-aural tick can be extremely painful and can result in facial

paralysis due to irritation of the nerve with tick toxin. Therefore, an urgent referral to the otolaryngologist is required. Careful visualisation and instrumentation by experienced health personnel are required to remove the tick safely.

References

1. Lazim NA, Mohammad I, Daud MKM, et al. The many faces of intra-aural tick clinical presentation. *J Pak Med Stud.* 2012;3(1):34–7.
2. Vedanarayanan V, Sorey WH, Subramony SH. Tick paralysis. *Semin Neurol.* 2004;24(2):181–4.
3. Somayaji KSG, Rajeshwari A, Human otoacariasis. *Indian J Otolaryngol Head Neck Surg.* 2007;59:237–9.
4. Miller MK, Massive tick (*Ixodes holocyclus*) infestation with delayed facial nerve palsy. *Med J Aust.* 2002;176:264–5.
5. Nager GT, Proctor B. Anatomical variation and anomalies involving the facial canal. *Otolaryngol Clin North Am.* 1991;24:531–53.
6. Zamzil AA, Baharudin A, Shahid H, et al. Isolated facial palsy due to intra-aural tick (*ixodoidea*) infestation. *Arch Orolfac Sci.* 2007;2:51–3.
7. Gammon M, Salam G. Tick removal. *Am Fam Physician.* 2002;66:643–6.
8. Ramsey MJ, DerSimonian R, Holtel MR, et al. Corticosteroid treatment for idiopathic facial nerve paralysis: a meta-analysis. *The Laryngoscope.* 2000;110(3):335–41.
9. Tiemstra JD, Khatkhate N. Bell's palsy: diagnosis and management. *Am Fam Physician.* 2007;76(7):997–1002.

Black tongue

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Case summary

A 44-year-old Indian man complained about dark discoloration of his tongue, which first appeared 3 years ago as small darkened patches on both sides of his tongue that have gradually increased in size. There was no pain, itchiness, altered taste sensation or halitosis. He was started on antiretroviral therapy (ART) – consisting of zidovudine, lamivudine and efavirenz – 3 years ago for HIV infection. However, according to him, the tongue lesions had appeared before initiation of ART. Besides the ART, he was not taking any other medications. He is a heavy smoker, smoking nearly 20 to 30 cigarettes per day from the past 20 years. He consumes tea and coffee moderately. His mother had passed away from oral cancer attributed to betel nut chewing, which gave rise to his anxiety over the possibility of developing oral cancer.

On examination, the tongue was moist with no evidence of inflammation and no hypertrophy of papillae. The lesions on the tongue were well-demarcated hyper-pigmented macules and patches confined mainly to the lateral borders (**Figures 1 and 2**). his oral hygiene was fair. In addition, no hyperpigmentation of the oral mucosa, gingiva, fingernails and palmar creases were noted and the cervical lymph nodes were not enlarged.

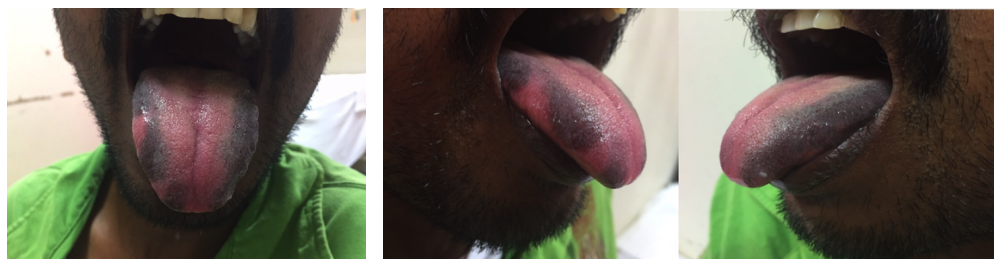


Figure 1. Patient's tongue (dorsal view) **Figure 1.** Right and left lateral view of the patient's tongue

Questions

1. What are the possible causes of the tongue hyperpigmentation?
2. What is the most likely diagnosis?
3. What is the most appropriate management?

Answers:

1. Pigmentation of the tongue may be attributed to various physiologic conditions, metabolic disorders, medications and exogenous substances. Increased pigmentation of the tongue is more commonly seen among darkly pigmented individuals and patients with HIV infection.¹ Usage of astringent mouthwash, drinking dark tea and other caffeinated drinks, and heavy smoking of tobacco are other identified risk factors.² None of the antiretroviral drugs have been found to be associated with tongue hyperpigmentation,
2. The most likely diagnosis is physiologic melanin pigmentation of the tongue, an irreversible benign condition. Other causes to be considered are HIV infection and cigarette smoking. Physiologic pigmentation is more commonly seen among darkly pigmented populations.⁴ Though the number of melanocytes (melanin-producing cells in the basal layer of epithelium) is the same in all races, the density and size of melanosomes (melanin-containing vesicles formed within cytoplasm of melanocytes)

but antibiotics such as linezolid, cephalosporins and tetracyclines; and other drugs such as corticosteroids, fluoxetine, lansoprazole and bismuth have been associated with reversible hyperpigmentation of the tongue.³ An important endocrine disorder that should not be ignored in patients who present with pigmentation of the tongue and generalised bronze appearance is Addison disease.

are increased in darkly pigmented individuals with Fitzpatrick skin phototype IV–VI due to increased melanocyte activity. Physiologic pigmentation of the tongue often develops during the first decades of life but may not be noticed by the patient until a later stage.⁴

3. The patient should be reassured that his condition is benign. He should be advised to reduce or stop smoking and where appropriate, the consumption of tea or coffee and the use of astringent mouthwash should be reduced or avoided. Otherwise, no further treatment would be required.

References

1. Sheikh Z, Khan AS, Khan S. Lingua villosa nigra. *Lancet*. 2011;377:1183.
2. Schwartz RH, Lee T. A two-week-old term baby with a black tongue. *Clin Paediatr*. 2015;54(11):1110–2.
3. Francisco JD, Jose-Maria C, Amparo T, et al. Black tongue associated with linezolid. *Am J Ther*. 2010;17:e115–7.
4. Chandra S, Keluskar V, Bagewadi A, et al. Extensive physiologic melanin pigmentation on the tongue: An unusual clinical presentation. *Contemp Clin Dent*. 2010;1(3):204–6.

Facial nerve palsy in a child: Bell's palsy? Think again!

Sam JE, Priya S, Nasser AW

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Child, meningioma, brain neoplasms, facial paralysis

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Abstract

Introduction: Half of facial paralysis in children is idiopathic at origin. However, dismissing facial paralysis as being idiopathic without a thorough history and meticulous examination could be disastrous as illustrated by this case.

Case report: We report a case of sphenoid wing meningioma in a 4-year-old girl. She first presented with only facial asymmetry that was noticed by her mother. Examination suggested a left upper motor neuron facial nerve palsy. A sphenoid wing meningioma was found on magnetic resonance imaging (MRI) of her brain. She underwent craniotomy and total tumour excision. Histopathological examination of the tumour showed a grade 1 transitional type meningioma. Meningiomas in children are rare compared to the adult population. Presentations in children may be delayed due to their inability to recognise or communicate abnormalities. Distinguishing between upper and lower motor neuron facial palsy is crucial in decision making for facial paralysis in children.

Introduction

Facial paralysis in children may be caused by infections such as varicella zoster virus and otitis media. Trauma to the head or face is another common cause. Although uncommon, cerebrovascular accidents and tumours must not be overlooked. Only after excluding these, should we classify facial paralysis as being idiopathic. Cerebral meningiomas usually occur in the fourth and fifth decade of life.¹ Meningiomas in children are rare. In the adult population, 32.2% of all intracranial tumours are meningiomas.¹ On the contrary, the incidence of paediatric meningiomas is about 1.5% to 2.9% of all intracranial paediatric tumours.² A local study found that only 1 out of 16 paediatric brain tumours was a meningioma.³ Of all the intracranial meningiomas, only about 1.9% to 2.8% are reported in the paediatric population.^{4,5} In a study of 87 paediatric patients with meningiomas, only 7% were aged between 5 months and 5 years and the majority of them were above 5 years.⁶ We report a case of a sphenoid wing meningioma in a 4-year-old girl.

Case report

A 4-year-old girl presented with only facial asymmetry for 1 month. She had left upper motor neuron facial nerve palsy as evidenced by loss of nasolabial fold and drooping of the angle of the mouth of her left side. The

forehead wrinkling was intact. Her visual fields were taken as grossly normal as the patient was not fully cooperative during the ophthalmologic examination. The visual acuity was 6/18 and 6/24 for her right and left eye, respectively. Fundoscopy was normal with no papilloedema or optic atrophy seen. There was no relative afferent pupillary defect. She did not have any other cranial nerve palsies or cerebellar signs. She had normal tone, power of 5/5 and normal reflexes for her upper and lower limbs. There were no cutaneous signs of neurofibromatosis. A magnetic resonance imaging (MRI) of her brain revealed an enhancing solid mass $32 \times 34 \times 42 \text{ mm}^3$ arising from the medial sphenoid wing area causing mass effect and compression of the ipsilateral lateral ventricle. There was no evidence of a vestibular schwannoma (**Figure 2**). The patient underwent craniotomy and total tumour excision. Unfortunately, the surgery caused the patient to have left hemiparesis with power of 3/5 as there was an injury to the lenticulostriate arteries supplying the right internal capsule during dissection. Histopathological examination revealed fragments of tumour tissue composed of whirling to storiform architecture of neoplastic cells. There was no obvious mitosis, necrosis or calcification. The cells were focally positive for epithelial membrane antigen – a marker for meningiomas. A final diagnosis of transitional type meningioma WHO grade I was made. Another MRI of the brain was done three months after the operation and did not show

any evidence of recurrence. Her facial nerve palsy and visual acuity remained the same but her hemiparesis was improved to a power of 4/5.



Figure 1. Left upper motor neuron facial nerve palsy

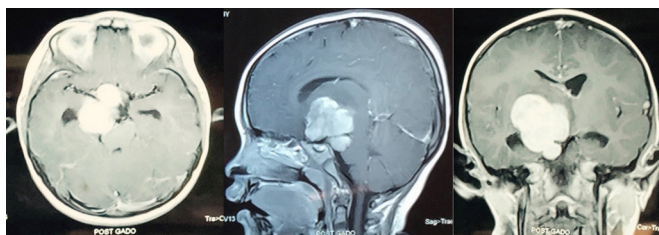


Figure 2. Brain MRI showing enhancing solid mass arising from the medial sphenoid region causing mass effect and compression of ipsilateral lateral ventricle

Discussion

Fifty percent of acquired facial nerve paralysis in children is usually idiopathic and classified as Bell's palsy.⁷ The other common causes include complicated otitis media, Ramsay Hunt syndrome, trauma or cerebellopontine angle tumours. It is important to note that these aetiologies cause a lower motor neuron lesion of the facial nerve. Lesions that destroy corticobulbar fibres cause an upper motor neuron lesion of the facial nerve. In upper motor neuron lesions, intracranial tumours and cerebrovascular accidents need to be considered as illustrated in this case.

Neuroimaging is definitely required if the child has upper motor neuron lesion in order to diagnose the pathology in the brain

and therefore a good clinical examination is required in order to decide upon the need for neuroimaging. It is important that primary care physicians recognise this and appropriate referral to tertiary centres is made as soon as possible. Intracranial tumours are potentially curable and delay in referral will translate into worse neurological dysfunction, which may be permanent.

To enhance the understanding of differentiating an upper from lower motor neuron facial nerve palsy, an outline of the facial nerve motor innervation and course is explained below.

Corticobulbar fibres project from the cerebral cortex passing through the genu of the internal capsule before reaching the facial nerve nucleus in the pons. From the pons, the facial nerve exits the brainstem at the cerebellopontine angle and enters the internal auditory canal together with the vestibulocochlear nerve. It then runs through the tympanic cavity before exiting the skull base through the stylomastoid foramen. After exiting, the facial nerve passes through the parotid gland and splits into five branches innervating the muscles of facial expression (temporal, zygomatic, buccal, marginal mandibular and cervical).

The facial nerve nucleus located in the pons is unique as it can be divided into two portions. The upper portion is innervated by bilateral corticobulbar fibres from both cerebral hemispheres. This upper portion in turn innervates the frontalis muscles through the temporal branch of the facial nerve. The lower portion is only innervated by the contralateral cerebral hemisphere. This lower portion then innervates the other muscles of facial expression. Thus, any lesion that only affects the corticobulbar fibres (an upper motor neuron lesion) would result in facial paralysis on the contralateral side with sparing of the frontalis muscle as there is still innervation from the corticobulbar fibres to the upper portion of the facial nerve nucleus from the other cerebral hemisphere.

For this case, loss of nasolabial fold and drooping of the left angle of mouth are indicative of left facial weakness. The left facial weakness reported in this case was due to the mass effect/compression to the right internal capsule where the corticobulbar fibres pass.

Meningiomas arise from arachnoid cap cells and are most commonly located along the falx, cerebral convexity or sphenoid bone. Meningiomas of the sphenoid bone are classified according to their location as lateral, middle and medial. In a series of 18 paediatric patients, only one meningioma was located at the medial sphenoid region.⁵ Medial sphenoid wing meningiomas may invade the cavernous sinus, superior orbital fissure and surround the carotid, anterior cerebral and middle cerebral arteries; therefore, it is difficult to excise fully without complications. Known risk factors for developing meningiomas are radiation, neurofibromatosis, oestrogen and progesterone. Compared to the female predominance in the adult population, the reported male-to-female ratio in children is 1.2:1.⁸

Paediatric meningiomas are different from adult meningiomas in terms of location of tumour, greater percentage of higher-grade tumours and higher recurrence rates.^{3,5}

The most common clinical presentations for medial sphenoid wing meningiomas in children include seizures, headaches, ataxia and hemiparesis.^{5,6,9} For adults, visual disturbance is the most common presenting complaint.¹⁰ This difference in presentation may be due to children being unable to recognise or communicate visual disturbances and thus allowing the tumour to grow undetected till further compression of adjacent brain occurs. Our patient presented with left upper motor neuron seventh nerve palsy, which is not one of the common presentations of a sphenoid wing meningioma.

Conclusion

Paediatric meningiomas are uncommon but need to be considered when a child presents with just isolated facial nerve palsy. Although the cause of most facial nerve palsies is idiopathic, careful examination can give hint of other potentially lethal diseases.

How does this paper make a difference to general practice?

- It highlights an uncommon but possible cause of facial nerve palsy.
- This case highlights the importance of a good examination to distinguish between upper and lower motor neuron facial palsy.
- This is an example where common symptoms in an adult may not be present in a child as they might not recognise the abnormality and thus not be able to complain about it.
- Meningiomas are curable with complete excision, which is easier with early detection.
- Early referral and detection is required to reduce morbidity from intracranial tumours.

References

1. Goh CH, Lu YY, Lau BL, et al. Brain and spinal tumour. *Med J Malaysia*. 2014;69:261–7.
2. Gjerris F, Agerlin N, Børgesen SE, et al. Epidemiology and prognosis in children treated for intracranial tumours in Denmark 1960–1984. *Childs Nerv Syst*. 1998;14(7):302–11.
3. Yusoff Mohd R, Abdullah J, Isa Mohd N. Brain tumours in rural North East Malaysia. *J Islamic Acad Sci*. 1998;11(4):121–9.
4. Sheikh BY, Siqueira E, Dayel F. Meningioma in children: a report of nine cases and a review of the literature. *Surg Neurol*. 1996;45(4):328–35.
5. Mehta N, Bhagwati S, Parulekar G. Meningiomas in children: a study of 18 cases. *J Pediatr Neurosci*. 2009;4(2):61–5.
6. Rushing EJ, Olsen C, Mena H, et al. Central nervous system meningiomas in the first two decades of life: a clinicopathological analysis of 87 patients. *J Neurosurg*. 2005;103(6 Suppl):489–95.
7. Ciorba A, Corazzi V, Conz V, et al. Facial nerve paralysis in children. *World J Clin Cases*. 2015;3(12):973–9.
8. Arivazhagan A, Devi BI, Kolluri SVR, et al. Pediatric intracranial meningiomas: do they differ from their counterparts in adults? *Pediatr Neurosurg*. 2008;44(1):43–8.
9. Rochat P, Johannesen HH, Gjerris F. Long-term follow up of children with meningiomas in Denmark: 1935 to 1984. *J Neurosurg*. 2004;100(2 Suppl):179–82.
10. Nakamura M, Roser F, Jacobs C, et al. Medial sphenoid wing meningiomas: clinical outcome and recurrence rate. *Neurosurgery*. 2006;58(4):626–39.

Xanthogranulomatous pyelonephritis with reno-colic fistula: A rare complication of urinary tract infection

Onn LV, Bickle I, Chua HB, Telisinghe PU, Chong CF, Chong VH

Onn LV, Bickle I, Chua HB, Telisinghe PU, Chong CF, Chong VH. Xanthogranulomatous pyelonephritis with reno-colic fistula: A rare complication of urinary tract infection. *Malays Fam Physician*. 2017;12(3);33–36.

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Abstract

Urinary tract infection (UTI) is one of the most common presentations in general practice and, in most instances, occurs in a single episode and is easily treated with a course of anti-microbial therapy. In the case of recurrent urinary tract infections, it is important to consider evaluation for any underlying causes. We report the case of a 32 year old female who had recurrent UTIs; this was a case of recurrent UTI secondary to xanthogranulomatous pyelonephritis from renal stones with resultant reno-colic fistula formation.

Introduction

Urinary tract infection (UTI) is one of the most common presentations in general practice and is easily treated with a course of anti-microbial therapy. However, when a patient has recurrent UTIs, it is important to consider evaluation for any underlying causes. We report a case of recurrent UTIs secondary to xanthogranulomatous pyelonephritis (XGP) from renal stones with resultant reno-colic fistula formation.

Case Summary

A 32-year-old female with a background history of type 2 diabetes mellitus, hypertension, and hyperlipidemia was admitted for evaluation of recurrent UTIs. Prior to this, she had had multiple outpatient clinic visits with recurrent urinary symptoms over the past year. Each time, she had been treated for UTIs with courses of antibiotics. Despite these, the frequency of her visits seemed to be increasing. Several times, urine cultures had

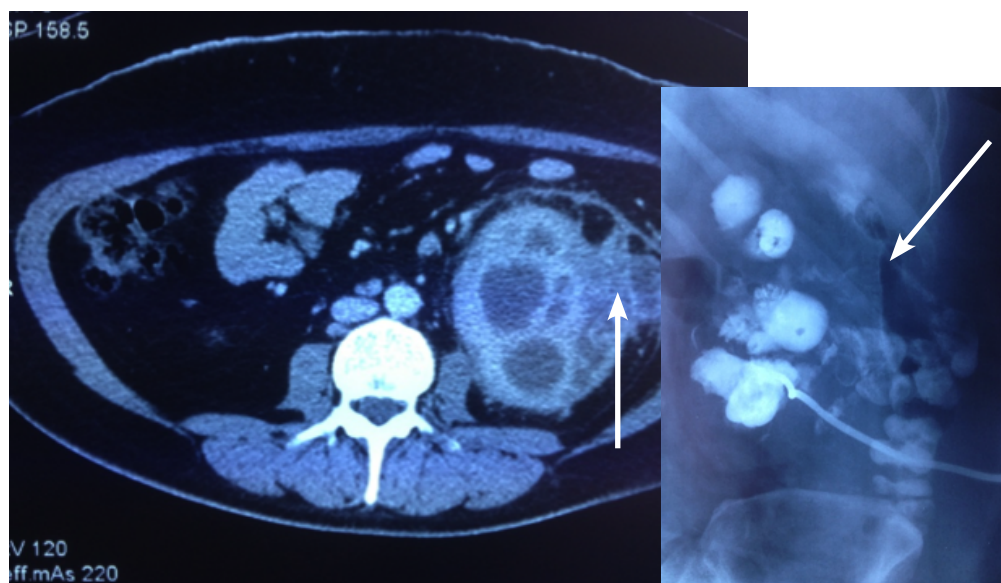


Figure 1: a) Axial computed tomography image showing a large inflammatory renal mass with dilated calyces (bear paw sign) and also extension of the inflammatory process (arrow), laterally affecting the descending colon (asterisk), and b) Anterograde pyelogram showing leakage of contrast into the descending colon through the fistula (arrow).

isolated *Escherichia coli* (*E. coli*). At the latest presentation, she experienced increasingly persistent left flank pain and mild fever, but without urinary symptoms. She denied any respiratory symptoms or any significant weight loss. There was no family history of kidney disease or any cancers. On examination, she was febrile and had a mildly tender, enlarged left kidney. Chest examination was normal. Her blood work showed mild leucocytosis (white cell count 13.6×10^9 , [Normal range $3.6\text{--}10.2 \times 10^9$]), mild acute kidney injury (Serum Urea 8.0 [3.2–7.4], and creatinine 130.4 $\mu\text{mol/L}$ [63.6–110.2]), and elevated C-reactive protein (C-reactive protein 5.45 mg/dL [<0.49]). She was started on a broad-spectrum intravenous antibiotic (amoxicillin-clavulanic acid at 1.2gm three times a day). An ultrasonography scan of the abdomen showed an enlarged left kidney with severe hydronephrosis, and multiple calculi in the renal pelvis with reduced renal cortical thickness. These findings were confirmed by computed tomography (**Figure 1a**), but the scan also revealed intravenous contrast in

the descending colon. Antegrade pyelogram confirmed the presence of a renocolic fistula (**Figure 1b**).

After discussion, the patient proceeded with a laparoscopic assisted left nephrectomy. During surgery, the enlarged left kidney was noted to be surrounded by inflammatory changes attached to part of the descending colon. The area with the fistula was identified, and the kidney and affected part of the descending colon were resected. Gross examination of the resected specimen showed a grossly enlarged and inflamed left kidney with a fistula seen between the inflammatory mass and the colon. Histology showed large amounts of fibrosis and inflammatory cells, along with a large number of foamy histiocytes (**Figures 2 a and b**). The findings were all consistent with XGP. Post-surgery, the patient remained well without any further episode of UTI during a follow-up of several years.

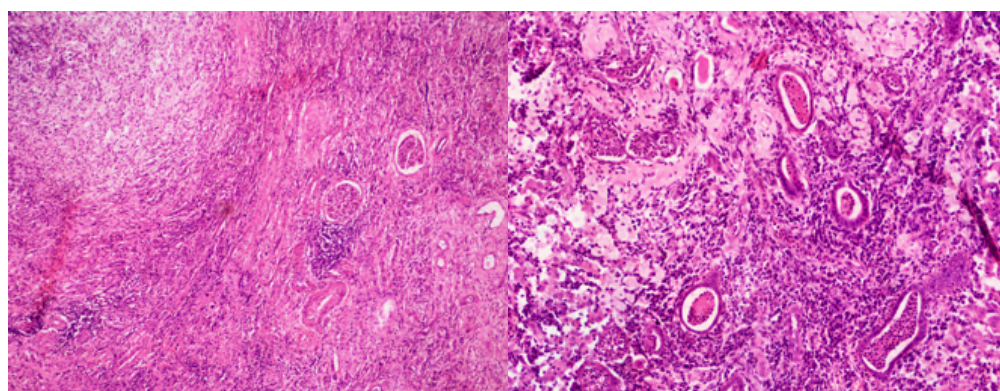


Figure 2: a) Resected kidney showing two glomeruli with peri-glomerular fibrosis, and an interstitium infiltrated by large number of foamy histiocytes, lymphocytes, and plasma cells (H&E Stain x 20), and **b)** A magnified view showing destruction of the renal parenchyma and tubules.

Discussion

XGP is an uncommon inflammatory disorder that is characterized by the abundance of foamy histiocytes. It was first described by Sclagenhauser in 1916¹, and, although cases continue to be reported, it is now much less common than it was in the pre-antibiotic era. XGP is commonly associated with urinary tract pathology, such as recurrent UTIs, lithiasis (nephrolithiasis or urolithiasis), or urinary obstructions. It is a condition that affects adults and children.^{1–3}

Manifestations of XGP are classified into three categories: Stage 1 (localized disease confined

to the renal parenchyma), Stage 2 (involvement of the perinephric fat), and Stage 3 (extension into the perinephric space).² Renocolic fistula, the extreme spectrum of Stage 3, is generally rare with very few reported cases.^{1,4}

The underlying mechanism of fistula formation is through a combination of ongoing inflammatory processes and increases in the pressure on the renal calyceal system secondary to stones. Superadded infections lead to necrosis of the thinned cortex, and this can lead to perinephric abscess formation, which subsequently perforates through structures. In most cases, as in our case, the adjacent left colon is affected, resulting in the

formation of a renocolic fistula.⁵ Among the reported complications associated with fistula formation, renocutaneous and renobronchial fistulae are the most common.

The clinical presentations of XGP are similar to pyelonephritis or UTI, but are typically recurrent, and, in the later stage, an enlarged kidney is invariably present. In our case, both stones and the renocolic fistula are causes of the recurrent UTIs. The most common organisms isolated are *Escherichia coli* (*E. coli*) or *Proteus species*.^{1,4,6} In the more advanced stages, kidney function deteriorates, and the kidney can become non-functional.

Diagnosis of XGP can be a diagnostic challenge as the clinical and radiological manifestations resemble malignancies and other infections. Manifestations as renal and Wilms tumors have been reported.^{7,8,9} Coexistence of XGP with renal neoplasm has also been reported. Parekh et al. reported the coexistence of XGP and renal tubulopapillary adenomas.¹⁰ Sarcoidosis affecting the kidney has also been reported to mimic XGP.¹¹ Other causes of a renocolic fistula include renal tuberculosis and diverticulitis.^{12,13}

Radiological manifestations are variable. The classical radiological change reported is the 'Bear Paw' sign, with pockets of abscesses resembling the paw of a bear.¹⁴ However, such a manifestation may not always be present. In our case, there were pockets of abscesses that did not have the classical features of the 'Bear Paw' sign. Radiological manifestations depend on the stage of disease. Inflammatory or septic changes are localized to the kidney in Stage 1, but adjacent organs are involved in Stages 2 and 3 of the disease. In a case of XGP presenting with septic emboli, the renal lesions were lobulated and localized and were

misdiagnosed as renal cell carcinoma. In most cases, the diagnosis of XGP is only made after surgery. During the intraoperative period, the diagnosis of XGP can also be difficult as the gross appearance of XGP, a yellowish mass with focal necrosis and hemorrhage, can resemble renal cell carcinoma.

The prognosis of XGP depends on the stage of disease at diagnosis. Adequate treatment of early stages (Stages 1 and 2) with antimicrobials, with or without surgery, is generally curative. However, the condition may reoccur if not adequately treated. For those patients at Stage 3 of the disease, especially those in the extreme spectrum where adjacent organs are involved, surgery is required, followed by adequate antimicrobials. XGP with septic extensions or emboli has been reported.¹⁵ Cases of psoas abscess and lung abscesses secondary to XGP have also been reported.¹⁶

Management of XGP often involves nephrectomy and excision of the fistula. Use of antimicrobials alone is generally not an effective cure, as in our patients. Although rare, recurrence in the remnant kidney can occur, and the patient should continue to be monitored.

In conclusion, our case of XGP with renocolic fistula highlights that frontline clinicians should consider XGP in patients who present with recurrent UTIs. Although benign, the condition can have malignant-like manifestations through infiltrations of the adjacent structures. Imaging should be done early, and the presence of enlarged kidney(s), especially those with stones, should be evaluated for XGP. In addition, adequate treatment of the stones, if detected early, would have prevented the progression to XGP.

References

1. Fallatah A, Tarakji M, Amuesi J. Xanthogranulomatous pyelonephritis: A retrospective Study of 10 Cases and Review of the Literature. *Saudi J Kidney Dis Transplant* 2001; 12(4):520-524. [PMID:18209396]
2. Malek RS, Elder JS. Xanthogranulomatous pyelonephritis. A critical analysis of 26 cases and of the literature. *J Urol*. 1978;119(5):589-593. [PMID: 660725]
3. Bingöl-Koğlu M, Ciftçi AO, Senocak ME, et al. Xanthogranulomatous pyelonephritis in children: diagnostic and therapeutic aspects. *Eur J Pediatr Surg*. 2002;12(1):42-48. [PMID: 11967759]
4. McDermott RL, Dowling CM, Alsinnwawi M, et al. Incidental renocolic fistula with xanthogranulomatous pyelonephritis. *Int J Surg Case Rep*. 2013; 4(2):222-224. doi: 10.1016/j.ijscr.2012.08.003.[PMID: 23291328]
5. Flood HD, Jones B, Grainger R. Ureterocolic fistula: a unique complication of extracorporeal shock wave lithotripsy. *J Urol*. 1992;147(1):122-124. [PMID: 1729500]
6. Ramteke VV, Shrivastava MS, Agrawal BA, et al. Xanthogranulomatous pyelonephritis in a young postpartal female. *BMJ Case Reports* 2011 Feb 2;2011. doi: 10.1136/bcr.09.2010.3356. [PMID: 22714617]

7. Iumanne S, Shoo A, Akoko L, Scanlan P. Case report: Xanthogranulomatous pyelonephritis presenting as "Wilms' tumor". *BMC Urol.* 2016;16(1):36. doi: 10.1186/s12894-016-0155-5. [PMID: 27388196]
8. AlDarrab RM, AlAkrash HS, AlKhateeb SS, AlBqami NM. A case report of a xanthogranulomatous pyelonephritis case mimicking the recurrence of renal cell carcinoma after partial nephrectomy. *Urol Ann.* 2015;7(4):524-526. doi: 10.4103/0974-7796.164857. [PMID: 26692680]
9. Wang Z, Yan B, Wei YB, Hu NA, Shen Q, Li D, Yang JR, Yang X. Primary kidney parenchyma squamous cell carcinoma mimicking xanthogranulomatous pyelonephritis: A case report. *Oncol Lett.* 2016;11(3):2179-2181. [PMID: 26998145]
10. Parekh D, Sengupta M, Das M, Chatterjee U. Xanthogranulomatous pyelonephritis and renal tubulopapillary adenomas: A rare coexistence. *Indian J Pathol Microbiol.* 2016;59(4):524-526. doi: 10.4103/0377-4929.191812. [PMID: 27721288]
11. Froehner M, Meinhardt M, Parmentier S, Hugo C, Wirth MP. Renal Sarcoidosis Mimicking Xanthogranulomatous Pyelonephritis. *Urology.* 2016. pii: S0090-4295(16)30546-5. doi: 10.1016/j.urology.2016.08.031. [PMID: 27590254]
12. Marwah S, Garg S, Marwah N, et al. Tubercular renocolic fistula: an unusual presentation. *Clin J Gastroenterol.* 2012;5(5):347-350. doi: 10.1007/s12328-012-0324-3. [PMID: 26181074]
13. Gimenez E, Raman JD, Lieberman M, et al. Cutaneous renocolic fistula associated with diverticulitis. *Can J Urol.* 2008;15(4):4191-4193. [PMID: 18706151]
14. Tan WP, Papagiannopoulos D, Elterman L. Bear's Paw Sign: A Classic Presentation of Xanthogranulomatous Pyelonephritis. *Urology.* 2015;86(2):e5-6. doi: 10.1016/j.urology.2015.04.033. [PMID: 26168999]
15. Ghos HM, Williams M, Perepletchikov A, James N, Babeir AA. An unusual presentation of xanthogranulomatous pyelonephritis: psoas abscess with reno-colic fistula. *Oxf Med Case Reports.* 2016;2016(7):150-153. doi: 10.1093/omcr/omw063. [PMID: 27471599]
16. Sistla R, Afroz T, Prasad S, Nallagonda R, Prasad R. Septic lung metastasis in xanthogranulomatous pyelonephritis. *Lung India.* 2016;33(4):462-464. doi: 10.4103/0970-2113.184945. No abstract available. [PMID: 27578950]

Varicella zoster causing preseptal cellulitis – uncommon but possible

Qualickuz Zanan NH, Zahedi FD, Husain S

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Abstract

Background: Varicella has been known to be a harmless childhood disease. However, it has been reported that severe complications have taken place following Varicella infection, in both immunocompetent, as well as immunocompromised, individuals. Cutaneous complications of Varicella may manifest as preseptal cellulitis, albeit rarely.

Report: We present a case of a 4-year-old boy who presented with symptoms and signs of preseptal cellulitis following Varicella infection. He was referred to the otorhinolaryngology team for a nasoendoscopy to rule out sinusitis, in view of the fear that a child presenting with a swollen red eye may be a case of true orbital cellulitis. He was treated successfully with intravenous antibiotics and surgical drainage of the preseptal collection.

Conclusion: It is imperative for clinicians to be aware that a simple Varicella infection may lead to cutaneous complications in the pediatric age group, especially in children who are 4 years and younger. They may develop preseptal cellulitis, whose presentation might mimic that of orbital cellulitis. Empirical treatment with antibiotics would be advantageous for the patient. A nasoendoscopic examination may also be warranted in these cases to rule out sinusitis as a cause of orbital cellulitis.

Introduction

Preseptal cellulitis is principally a pediatric problem, most commonly caused by trauma, insect bites, or the spread of a systemic infection. It is rarely caused by sinusitis. On the other hand, orbital cellulitis is usually caused by the spreading of infection from the sinuses.¹ However, it can be very difficult to differentiate between preseptal and orbital cellulitis. In both conditions, the eyelids appear erythematous and swollen, but in patients with preseptal cellulitis the eye movement is normal, whereas, in orbital cellulitis, there will be ophthalmoplegia and proptosis. Patients with orbital cellulitis may complain of blurring of vision and have abnormal pupil reactions, which is not usually seen in preseptal cellulitis. Preseptal cellulitis infection is confined to the eyelid skin, unlike orbital cellulitis, in which the infection extends beyond the orbital septum into the orbit.

The most common organisms isolated in cases of preseptal cellulitis are the *Staphylococcus* and *Streptococcus* species. Very rarely, preseptal or orbital cellulitis is associated with Varicella zoster virus (VZV) infection, and, usually, it is secondary to a bacterial infection.^{2,3}

In view of the fear that a child presenting with a swollen red eye may be suffering from true orbital cellulitis, the treatment for preseptal cellulitis has always been with broad spectrum antibiotics, given either intravenous or orally, with the intravenous route preferred.¹

Case Report

A 4-year-old boy with no known medical problems presented to our pediatric colleagues with a fever of 6 days' duration associated with vesicular rash for 4 days and right eye swelling for 1 day. The fever was high-grade and temporarily relieved with oral paracetamol. The vesicular rash erupted on the third day of fever, starting at the trunk, and, later, expanding to the face and limbs. It was pruritic in nature and contained clear fluid. There was no known contact with any person with chicken pox. His right eyelid started to swell on day 5 of the fever. It was painful and red. The child had difficulty opening his right eye at the time of presentation but did not complain of blurring of vision. There were no nasal or throat symptoms.

On examination, he was pyrexial with a recorded temperature of 38 degree celcius.

Other vital signs were normal. There was an obvious erythematous, tender, but non-fluctuant, swelling involving the right upper eyelid, extending to the right maxilla. There was also a ruptured vesicular lesion seen on the right eyelid (**Figure 1**). The child was unable to open his right eye. However, upon retracting the upper eyelid, the conjunctiva was noted to be erythematous but not chemotic. Other examinations of the eyes were unremarkable. Rigid nasoendoscopy did not show any sign of acute sinusitis.



Figure 1: Erythematous, tender but non-fluctuant swelling involving the right periorbital region, extending to the right maxilla. A ruptured vesicular lesion is also seen on the upper eyelid

Laboratory investigation revealed a raised white blood cell (WBC) count of 22 with predominant neutrophils, as well as a raised C-reactive protein (CRP) level of 13. Other blood parameters were within normal range. Both blood culture and sensitivity (C&S), as well as swab C&S taken from the ruptured vesicle over the upper eyelid had negative yield. A computed tomography (CT) scan of the orbit showed evidence of a right preseptal collection, measuring 1.0cm x 2.6cm. There was minimal mucosal thickening within bilateral maxillary sinuses but otherwise no overt signs of sinusitis.

The patient was started empirically on intravenous Cloxacillin 750mg four times a day and intravenous Cefotaxime 750mg four times a day.

After one week of intravenous antibiotics and

slow response to therapy, the child was subjected to incision and drainage of the preseptal collection under general anesthesia. There was minimal pus seen and a C&S swab taken at that time was also negative.

He was discharged well after 14 days of intravenous antibiotics and did not have any residual sequelae of Varicella zoster infection during follow-up one month later.

Discussion

Varicella-zoster virus (VZV) is the causative agent of Varicella, more commonly known as chickenpox. Although Varicella is usually a relatively benign and self-limited childhood illness, the disease has been associated with a variety of grave and potentially lethal complications in both immunocompetent, as well as immunocompromised, individuals. The typical clinical presentation of Varicella is characterized by generalized vesicular rash associated with fever. However, atypical clinical presentations and uncommon complications of the disease can be a diagnostic and therapeutic challenge. Some of the rare manifestations of VZV infection in an otherwise immunocompetent person include pneumonitis, cerebellar ataxia, encephalitis, and cutaneous complications, such as bacterial cellulitis, as well as staphylococcal and streptococcal toxic shock syndromes. Another cutaneous complication of Varicella is pupura fulminans, which is associated with thrombocytopenia and disseminated intravascular coagulopathy (DICC). Varicella gangrenosa is a severe form of necrotizing fasciitis following Varicella infection. These cutaneous complications result from bacterial superinfection of skin lesions, caused most often by 118 *Staphylococcus Aureus* or *Streptococcus Pyogenes*.⁴ This is thought to be due to skin barrier disruption and possibly transient virus-induced immunosuppression.⁵ In the pediatric age group, the incidence of Varicella skin complications ranges from 2.6 % to 41.2 %.⁶

Most of the complications associated with Varicella occur in preschool-age children who are 4 years old or younger, with infectious complications reported more frequently than neurologic complications in this age group.²

Aebi et al. in 1996 reported 10 cases of periorbital cellulitis in patients with Varicella infection. Group A Beta Hemolytic *Streptococcus* was identified in 4 cases, 1 case

involved *Haemophilus Influenza* Type B, while the remaining 5 cases had unknown etiology.⁵ Lee et al. in 2012 reported a case of preseptal cellulitis following Varicella infection, and Methicillin Sensitive *Staphylococcus Aureus* was isolated. The patient responded well with intravenous Cloxacillin and surgical drainage of preseptal collection.³

Our patient falls perfectly into the age group in which Varicella skin complications most commonly occur, and, as in the previous reports,

the causative bacterial agent was unknown. It is therefore very important for clinicians to be aware that a simple Varicella infection may lead to cutaneous complications in the pediatric age group, especially in children who are 4 years old or younger. One of these complications may be preseptal cellulitis, which presentation might mimic that of orbital cellulitis. Empirical treatment with antibiotics would be beneficial to the patient.

Conflict of interest: None

How does this paper make a difference to general practice?

- Raises awareness of severe complications which may take place following Varicella infection, in both immunocompetent and immunocompromised individuals.
- Highlights preseptal cellulitis as one of the possible cutaneous complications of Varicella zoster virus infection.
- Creates awareness of the importance of excluding sinusitis as a cause of swollen red eyes.
- Educates clinicians to be aware that a simple Varicella infection may lead to cutaneous complications in the pediatric age group, especially in children who are 4 years or younger.
- Highlights the importance of a hospital referral when there is suspicion of severe complications following a Varicella zoster virus infection.

References

1. Brugha RE, Abrahamson E. Ambulatory Intravenous Antibiotic Therapy for Children with Preseptal Cellulitis. *Pediatr Emerg Care*. 2012 Mar;28(3):226–8.
2. Ziebold C, Kries R von, Lang R, Weigl J, Schmitt HJ. Severe Complications of Varicella in Previously Healthy Children in Germany: A 1-Year Survey. *Pediatrics*. 2001 Nov 1;108(5):e79.
3. Kian-Guan Lee, Mei-Chih Cheng. Varicella-Zoster Infection with Secondary Bacteremia and Extensive Facial Abscesses. *Med J Malays*. 2012 Oct;67(5):529.
4. Gnann JW. Varicella-Zoster Virus: Atypical Presentations and Unusual Complications. *J Infect Dis*. 2002 Oct 15;186 (Supplement 1):S91–98.
5. Aebi C, Ahmed A, Ramilo O. Bacterial Complications of Primary Varicella in Children. *Clin Infect Dis*. 1996 Oct 1;23(4):698–705.
6. Bozzola E, Bozzola M, Krzysztowiak A, Tozzi AE, El Hachem M, Villani A. Varicella Skin Complications in Childhood: A Case Series and a Systematic Review of the Literature. *Int J Mol Sci* [Internet]. 2016 May 6 [cited 2016 Jun 15];17(5). Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4881514/>

Simple Question Towards Diagnosis: Did You Eat Fish?

Mohamad I, Abdul Manab FW

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Case Summary

A 35-year-old male complained of an acute onset of mild odynophagia with sharp pricking pain during swallowing. However, he was still able to tolerate oral intake of both solid food and fluid. There was no neck swelling, fever, voice change, or shortness of breath. Examination of the neck, oral cavity, and oropharynx was normal. Laryngoscopy also revealed normal findings.



Figure 1.



Figure 2.

Questions

1. What is the most important, but missed, question in the history?
2. What is the role of a neck radiograph?
3. When is a referral needed?

Answers:

1. The most important question in history taking is that of any episode of having had a meal of bony meat. It is very important in the case of acute onset odynophagia. In this case, the patient admitted to having had a meal of fish, with bone, the night before. The patient may have accidentally swallowed a fish bone.

Apart from a history of ingestion, which some patients might forget, especially if it occurred some time prior to the presentation, other symptoms, such as neck pain, swelling, or a pricking sensation in the neck, may also be presenting complaints.¹

There can also be signs of the foreign body's migration; on rare occasions, this can cause self-extrusion.²

Migration tends to occur in a delayed presentation or a delayed referred case. The foreign body can migrate to the distal part of the alimentary tract, obstructing the lumen or perforating the lumen, and, thus, affecting adjacent structures.¹

2. In the outpatient setting, the most important investigation to conduct is a soft tissue neck radiograph. The lateral view is the most sensitive in terms of picking up the opaque foreign body (**Figure 1**). When compared to the anteroposterior

view (**Figure 2**), the lateral view is plainly more helpful. In this case, the lateral view of the soft tissue neck radiograph clearly showed the foreign body at the C5-C6 vertebra level. However, there are normal calcifications that may mimic or obscure the view of the opaque foreign body.³

Undoubtedly, there are fish bones which are radiolucent or show opacity in various degrees.⁴ This might lead to a misleading conclusion on the part of those who are unaware of their presence. With the persistence of symptoms, even with negative clinical examination findings or radiograph opacity, examination under anaesthesia may still be warranted. If, the symptoms still persist post procedure, a computed tomography (CT) scan should be obtained to rule out any migrated or impacted radiolucent foreign bodies. CT has been shown to be more effective in complicated cases than plain radiography.⁵ However, it is not routinely used in all cases. The role of ultrasonography is not established; the subsequent step after a radiograph is to either examination under anesthesia or conduct a CT scan.

3. An urgent referral is needed in all cases of suspected foreign body ingestion. An appointment must not be delayed. Sharp foreign bodies, especially fish bones, have been shown to migrate to adjacent structures¹. Given the vital anatomical structures present in the neck, a day's delay can result in catastrophic consequences.

In this case, we proceeded with direct laryngoscopy and esophagoscopy under an emergency list. The intraoperative finding

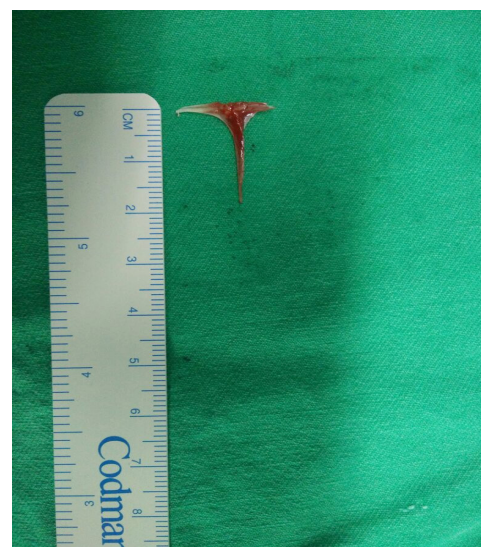


Figure 3.

was a T-shape fish bone measuring 1.5 cm x 2 cm (**Figure 3**) at the level of 17 cm from the upper incisor with minimal slough and abrasion of the oesophageal mucosa. No laceration wound was seen on the mucosa. The patient was allowed orally with normal diet post operation and discharged in good health the very next day. Upon discharge, the patient must be advised to come back for a re-assessment as an outpatient, usually in one week's time. A course of antibiotics is also usually prescribed. Any symptoms of fever or odynophagia may warrant readmission due to the possibility of a secondary infection.

It is recommended that in any suspected case of a foreign body, either from history, examination, or a plain neck radiograph, an urgent referral be made because complications arising from prolonged impaction, distal dislodgement, or migration will increase morbidity.

References

1. Johari HH, Khaw BL, Yusof Z, Mohamad I. Migrating fish bone piercing the common carotid artery, thyroid gland and causing deep neck abscess. *World J Clin Cases*. 2016;4(11):375-379.
2. Jamal S, Irfan M, Nazim N. Spontaneous extrusion of migrated fish bone in the neck after 48 hours of ingestion. *Bangladesh Journal of Medical Science*. 2011;10 (2):129-132.
3. Chawla A, Eng SB, Peh WC. Clinics in diagnostic imaging (100). Migrated pharyngeal fish bone. *Singapore Med J*. 2004;45(8):397-402; quiz 403.
4. Irfan M, Ahmad Helmy AK, Wan Shah Jihan WD. Radio-opacity of commonly consumed bony fish in Kelantan, Malaysia. *Med J Malaysia*. 2012;67(5):491-493.
5. Pinto A, Muzj C, Gagliardi N, Pinto F, Setola FR, Scaglione M, Romano L. Role of imaging in the assessment of impacted foreign bodies in the hypopharynx and cervical esophagus. *Semin Ultrasound CT MR*. 2012;33(5):463-470.

Recurrent transient visual loss in a middle aged woman

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Abstract

Visual loss is a common presenting complaint in primary care. We present a case of recurrent transient visual loss in a middle aged woman. Her funduscopy showed bilateral optic disc swelling. We have highlighted the differentiation of bilateral optic disc swelling at the primary care level as the management differs according to the diagnosis.

Case History

A 43 year-old Chinese female presented with bilateral painless transient blurring of vision for the past 3 months. She described the visual disturbance as 'the room suddenly became dark' when she tried focusing on a specific object. Her transient blurring of vision lasted for 3 to 4 seconds before she regained her vision. These transient visual losses had been increasing in frequency over the past 1 month. The visual loss was not related to any particular time or posture. The visual loss did not worsen with any activities such as exercise or hot showers. There were no floaters, flashes, eye discharge, or diplopia. She had no headache, vomiting, fever, aura, tinnitus, limb weakness or numbness, vertigo, dysarthria, hearing loss, or constitutional symptoms. She did not seek medical attention or self-medicate because the visual loss lasted only a few seconds. These transient visual losses were mainly of the right eye.

She has hypertension which is well controlled on tablet Amlodipine 5mg OD under a

primary care clinic follow up. There was no history of diabetes, hyperlipidemia, cardiovascular disease or transient ischemic attack. She is not on any oral contraceptive pills or traditional supplements. She is married, working as a sales representative at a food company.

On examination, her visual acuity was 6/24 (right) and 6/12 (left). Pinhole examination bilaterally showed a visual acuity of 6/9. Her pupils were reactive bilaterally (3mm). Her conjunctiva, sclera and cornea were normal. No relative afferent pupillary defect (RAPD) was noted. Confrontational visual field assessment was grossly normal. Fundus camera for both eyes showed similar findings (**Figure 1**). Neurological examination was unremarkable, with all cranial nerves (mainly CN II, III, IV and VI) and peripheral nerves grossly intact. Her blood pressure was 140/70mmHg and her pulse rate was 86 and in regular rhythm. She was afebrile. All the other systems (respiratory, abdomen and cardiovascular) were unremarkable.

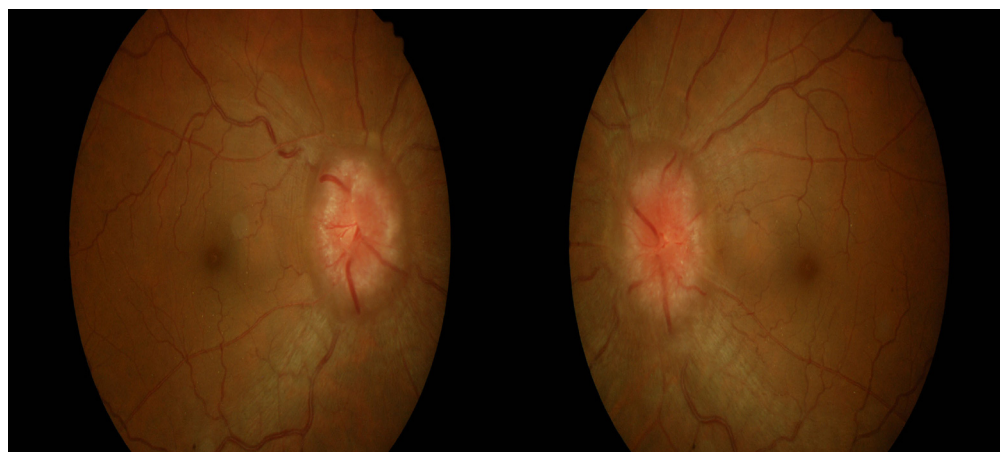


Figure 1: Funduscopy of her right and left eye

Questions

1. Describe the abnormality of the fundus in Figure 1.
2. What is the most likely diagnosis based on the fundus finding?
3. List the features to differentiate it from other diagnosis.
4. What is the diagnostic investigation to confirm the diagnosis?
5. Outline the management for this patient.

Answers

1. Bilateral optic disc swelling evidenced by hyperemic, elevated disc, cup obliterated and blurred optic disc margins. However, no peripapillary haemorrhages, or cotton wool spots noted. The macula and retina vessels appeared normal.
2. The diagnosis is papilloedema secondary to a space-occupying lesion. Papilloedema refers to optic disc swelling due to raised intracranial pressure. From the history and physical findings, the most likely diagnosis is a space-occupying lesion because the patient presented with painless visual loss which was brief (few seconds), and her hypertension was fairly well controlled. Transient visual loss represents transient fluctuations in nerve head perfusion, correlating to the degree of intracranial pressure elevation.
3. There are many other differential diagnosis of bilateral optic disc swelling in this age group besides papilloedema. These are atypical optic neuritis, hypertensive retinopathy grade 4, ischaemic optic neuropathy and venous occlusion such as central retinal occlusion and cavernous sinus thrombosis.¹ **Table 1** shows the features that help differentiate the common causes of bilateral optic disc swelling.¹⁻⁵
4. Neuroimaging of the brain can help to differentiate the causes of bilateral optic disc swelling. CT scan or MRI of the brain should be ordered to rule out intracranial mass lesions. If neuroimaging is normal, one should consider another diagnosis, which is idiopathic intracranial hypertension. In this case, lumbar puncture should be done to assess the opening pressure.
5. 1. To establish the diagnosis of space-occupying lesion.
2. For further management by the neurosurgical team.

Case progression:

She was admitted to the ward and underwent an urgent CT scan followed by MRI of the brain. Her CT scan and MRI revealed a large extra-axial lesion arising from right greater sphenoid wing, measuring 7 x 5.5 x 4 cm with perilesional vasogenic oedema and significant midline shift to left. Her lesion was homogeneously enhanced with dural tail and sphenoidal hyperostosis. She was then referred to neurosurgical team for further management.

Discussion

Monocular or binocular transient recurrent visual loss can be due to a variety of disorders that can be benign or having detrimental neurologic or ophthalmologic implications if not managed early. This case highlights the importance of getting a proper history and physical examination to identify the possible differential diagnosis of recurrent painless transient visual loss. Pertinent history such as whether the visual loss was monocular or binocular, duration of the symptoms, associated symptoms, precipitating factors and past medical history are vital to clinching the diagnosis. The physical examination should not only include visual acuity but a full visual examination such as visual field, RAPD and funduscopy. The common causes of transient visual loss are amaurosis fugax (the embolic phenomenon in the eye due to retinal arterial occlusion - cardiac disease, vasculitis), ischemic causes such as stroke, and transient ischemic attack, retinal vein occlusion, followed by optic neuropathy (optic neuritis), papilloedema and ocular causes such as glaucoma, keratitis and blepharitis.^{6,7} Primary care providers who see these kind of cases should initially rule out thromboembolic events (stroke, transient ischemic attack) and vertebrobasilar circulatory disorders. Usually these thromboembolic events are painless and last up to 1 to 15 minutes. These events are also accompanied with neurological symptoms and signs.

Table 1: Differential diagnosis of bilateral optic disc swelling

	Papilloedema	Hypertensive retinopathy grade 4	Optic neuritis
Definition	Swelling of the optic disc due to raised intracranial pressure	Hypertensive eye changes with optic disc swelling	Inflammation of the optic nerve head
History	Transient visual loss, headache worse in the morning, nausea, vomiting, diplopia	Headache, underlying hypertension that is usually uncontrolled	Acute rapid eye loss (several hours to few days), pain with eye movement, symptoms suggestive of any underlying disease (infection/inflammation, multiple sclerosis)
Physical examination	Neurological signs depending on the brain site involvement	May present with positive signs for uncontrolled hypertension (signs of congestive cardiac failure, signs of renal impairment, signs of clinical coronary heart disease, cardiac murmur), concomitant dyslipidaemia changes (xanthelasma/xanthoma)	Usually normal. May present with neurological signs in cases of multiple sclerosis or signs suggestive of infection/inflammation
Blood pressure	Normal or may be elevated	Elevated	Normal
Visual acuity	Normal/transient loss	Normal	Variable
Colour vision	Normal	Normal	Impaired. Red colour desaturation in early stage
Pupils: RAPD	Absent	Absent	(a) Bilateral and symmetrical: Absent (b) Bilateral and asymmetrical: present (c) Unilateral: present
Fundus findings	Normal fundus except for optic disc findings-optic disc hyperemic, elevated disc, cup obliterated, blurred optic disc margins (late stage), peripapillary haemorrhages	Optic disc swollen (mild), arteriolar thickening, tortuosity, 'silver wiring', arteriovenous nipping, 'cotton wool' exudates, flame-shaped or blot haemorrhages	Normal fundus except for optic disc findings – optic disc hyperaemic but not elevated, haemorrhages nearby/on optic disc
Investigation	CT scan/MRI scan	Blood pressure	MRI scan

Presence of vertigo, dysarthria and diplopia is suggestive of vertebrobasilar disorder. History such as changes related to posture, hot shower, exercise or muscular straining may help in differentiating the diagnosis. Loss of vision after exercise or hot shower (Uhthoff's phenomenon) is pathognomonic of demyelinating disease of the optic nerve (optic neuritis).⁸ Papilloedema usually presents with visual loss related to posture change and generally lasts for a few seconds as what this patient experienced.⁷ Associated symptoms such as early morning headache, nausea and vomiting should raise alarm on the possibility of increased intracranial pressure (ICP). Past medical history such as diabetes mellitus, hypertension and dyslipidaemia suggest an atherosclerotic cause. Grade 4 hypertensive retinopathy (malignant hypertension) can present with visual loss when there is damage in the retina. Severe hypertension can also result in changes to the optic nerve head that mimics papilloedema.

In this case, the patient surprisingly did not present with the typical ICP symptoms. Her visual acuity was also fairly good (6/9). It is uncommon for patients to have persistent visual acuity or visual field loss until the later stages of papilloedema. Therefore, it could be misleading if one were to check the visual acuity without doing the other aspects of eye examination. In this case, funduscopy showed bilateral optic disc swelling, narrowing down the differentials into a few possible diagnoses as mentioned in **Table 1**. Once papilloedema is seen, it requires urgent imaging to look for a space-occupying lesion because the underlying cause of papilloedema can have significant impact towards morbidity and mortality.

Final progression of the patient:

She was diagnosed with right sphenoid wing tumour. Craniotomy and tumour excision surgery were performed. Gross total resection (Simpson grade II) and cranial nerves were preserved. Her histopathological examination confirmed meningioma, WHO grade 1 transitional subtype. Post operatively, her visual

acuity resumed to normal. She is currently under the care of the neurosurgical team with 4 monthly follow-up and yearly MRI. Meningioma is the most common benign brain tumour in Malaysia accounting for 30-36% of all brain tumours, with a marked female: male preponderance of 3:1.⁹ Early detection and prompt adequate surgical treatment have shown good treatment outcomes with low recurrence rate. For this patient, her prognosis is good with an estimated recurrence rate of 16% to 19% in 10 years.¹⁰

Conclusion and key points

1. Transient visual loss can be an important symptom of serious pathology such as a space-occupying lesion as illustrated in this case
2. A thorough history and examination including general and eye examinations (visual acuity, visual field, RAPD, funduscopy) are essential to clinch the diagnosis.
3. Serious disorders not to be missed with a symptom of transient visual loss
 - Stroke/transient ischemia attack/amaurosis fugax (emboli of retinal vessels)
 - Malignant hypertension
 - Retinal vein and artery occlusion (branch or central)
 - Space occupying lesion
 - Acute angle closure glaucoma (Subacute, transient and intermittent high intraocular pressure can lead to transient corneal edema in the early stages)
4. Often missed diagnosis of bilateral blurred margin of optic disc
 - Papilloedema
 - Optic neuritis
 - Malignant hypertension
 - Leukemia (masquerade)
5. All cases with papilloedema must have urgent neuroimaging.

References

1. Kumar P, Clark ML. *Kumar and Clark's Clinical Medicine* (6th edi.). Edinburgh. Elsevier Health Sciences; 2012.
2. Carta A, Favilla S, Prato M, et al. Accuracy of funduscopy to identify true edema versus pseudoedema of the optic disc. *Invest Ophthalmol Vis Sci*. 2012;53(1):1-6.
3. Balcer LJ. Clinical practice. Optic neuritis. *N Engl J Med*. 2006;354(12):1273-80.
4. Murtagh J. Visual Failure. John Murtagh's General Practice (5th edi.). Sydney. McGraw-Hill Medical Publishing; 2011: p. 817.
5. Wong TY, McIntosh R. Hypertensive retinopathy signs as risk indicators of cardiovascular morbidity and mortality. *Br Med Bull*. 2005;73 - 74: 57- 70.
6. Lavallée PC, Cabrejo L, Labreuche J, et al. Spectrum of transient visual symptoms in a transient ischemic attack cohort. *Stroke*. 2013;44(12):3312 - 7.
7. Bioussé V, Trobe JD. Transient monocular visual loss. *Am J Ophthalmol*. 2005;140(4):717 - 21.
8. Newman NJ, Miller NR, Bioussé V. Optic Neuritis. Walsh and Hoyt's Clinical Neuro-ophthalmology. Baltimore. Lippincott Williams & Wilkins; 1998. p. 5747.
9. Goh CH, Lu YY, Lau BL, et al. Brain and spinal tumour. *Med J Malaysia*. 2014;69(6):261-7.
10. Simpson D. The recurrence of intracranial meningiomas after surgical treatment. *J Neurol Neurosurg Psychiatry*. 1957;20(1):22-39.

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