

Pilot epidemiological study of basal cell carcinoma in Melaka



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ABSTRACT

Background: This study was conceptualized to be a stepping stone for analysis of BCC in Melaka. **Aims and Objective:** To analyse the incidence of BCC in Melaka and analyse the distribution of age, gender, ethnicity, localization of lesion and treatment done. **Materials and Methods:** A retrospective analysis on patients who were diagnosed and treated for BCC was conducted in the Department of Plastic and Reconstructive Surgery, Hospital Melaka from January 2013 until March 2019. **Result:** There were 152 patients diagnosed with BCCs (N = 152) involving 80 women (52.6%) and 72 men (47.4%) over the study period. The patients were aged between 18–92 years with average age for women were 66.2 years and 66.1 years for men. The majority of cases, 134 (88.2%) were located on the head and neck region. The most common ethnic group to be affected by BCC is the Chinese with 78 (51.3%) followed by Malays at 72 (47.4%) and 1 (0.7%) for Indians and 1 (0.7%) for other minor ethnic group. There were 89 (58.6%) patients that underwent excision only whilst 63 (41.4%) patients underwent excision with reconstruction either with skin grafting or local flap. **Conclusion:** Basal cell carcinoma is a common cutaneous malignancy. The local demographics of patients with BCC in Melaka are similar to that in the literature. We hope with the data provided, it will facilitate better outcome for treatment of BCC not just in our local setting but elsewhere worldwide.

Key words: Basal cell carcinoma; Incidence; Distribution; Melaka

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INTRODUCTION

Basal cell carcinoma (BCC) is a malignant epithelial neoplasm of the skin. The incidence of BCC is rising and it represents approximately 70–80% of all skin carcinomas with a growing incidence of 1–3% every year.^{1,2}

Basal cell carcinoma is not life threatening. The mortality rates associated with BCC is low (< 0.1%)² but localized tissue invasion may cause considerable functional and cosmetic problems, as the majority of lesions involve the face.

Chronic sun exposure is commonest risk factor for development of BCC, hence the significant involvement of the head and neck area. However, there is variation in the anatomical site distribution for the histologic subtypes of BCC.^{3,4}

As to date, there is lacking of epidemiological data on the incidence of BCC in Malaysia and in Melaka specifically. Therefore, we present our data to facilitate current and future treatment of BCC not just in our local setting but also elsewhere.

AIMS AND OBJECTIVE

The aims and objective of this study is to analyse the incidence of BCC in Melaka and analyse the distribution of age, gender, ethnicity, localization of lesion and treatment done.

MATERIALS AND METHODS

A retrospective analysis was conducted in the Department of Plastic and Reconstructive Surgery, Hospital Melaka from

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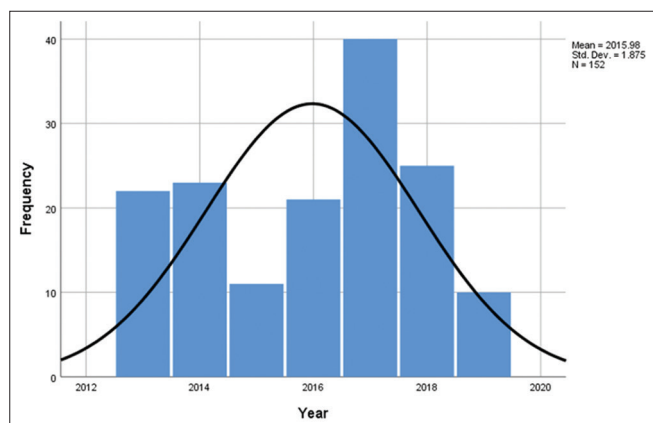


Figure 1: Distribution of BCC according to year

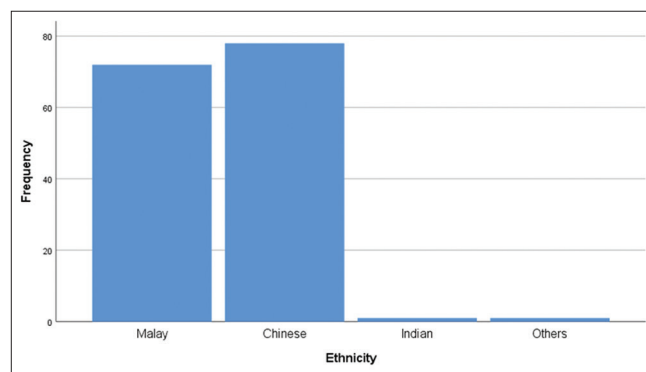


Figure 4: Distribution of BCC according to ethnicity

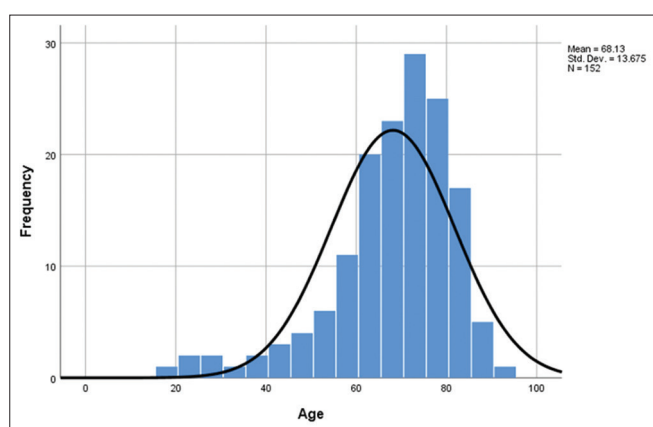


Figure 2: Distribution of BCC according to age

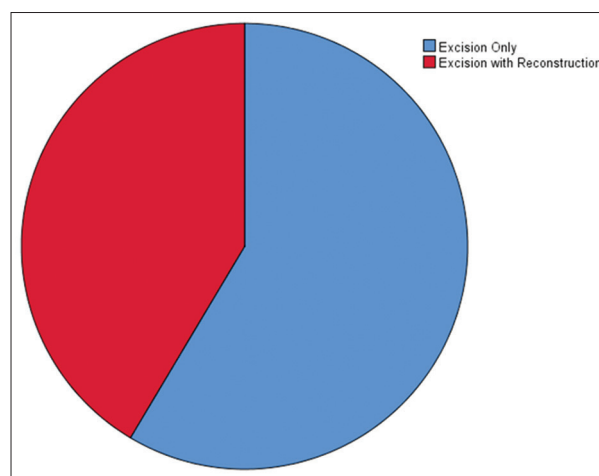


Figure 5: Procedures that were done for BCC patients

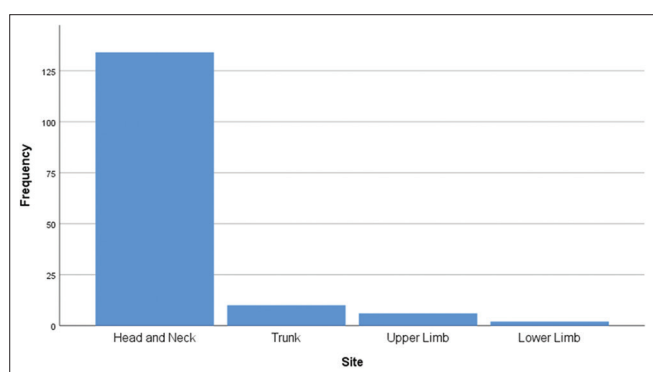


Figure 3: Distribution of BCC according to anatomical site

RESULTS

There were 152 patients diagnosed with BCCs (N=152) involving 80 women (52.6%) and 72 men (47.4%) over the study period (Figures 1 and 2). The patients were aged between 18–92 years with average age for women was 66.2 years and 66.1 years for men (Figure 2).

The majority of cases, 134 (88.2%) of BCC was located on the head and neck region. The second most common location was the trunk, with 10 (6.6%) cases. In 6 (3.9%) of the cases BCC occurred on an upper limb whilst in 2 (1.3%) cases it occurred in the lower limb (Figure 3).

Based on ethnicity, the most common ethnic group to be affected by BCC is the Chinese with 78 (51.3%) followed by Malays at 72 (47.4%) and 1 (0.7%) for Indians and 1 (0.7%) for other minor ethnic group (Figure 4).

We also analyzed the types of procedures and treatment that were carried out. There were 89 (58.6%) patients underwent excision only whilst 63 (41.4%) patients

January 2013 until March 2019. There were 152 patients diagnosed and treated for BCC during this period. In all cases the diagnoses were confirmed by histological examination.

The distribution of age, gender, ethnicity, localization of lesion and type of surgery done were analyzed. Data was collected and analysed using the SPSS program.

underwent excision with reconstruction either with skin grafting or local flap (Figure 5).

DISCUSSION

Basal cell carcinoma is considered to be the commonest cutaneous malignancy which comprise about 80% of all non-melanoma skin cancers (NMSC) and their incidence continues to rise, doubling every 25 years.^{1,2,4} This could be caused by increased exposure to UV light and ozone depletion in various parts of the world due to environmental and industrial pollution.⁵ Despite the high prevalence of BCC, there is a lack of reliable epidemiological data in most states in Malaysia including Melaka.

As previously reported, BCC has a higher male preponderance, affecting them two times more than women.⁶ However, in our study we observed slightly more women affected by BCC.

As for distribution among age groups, we noted similar findings to previous reports where there is a higher incidence of BCC with increasing age.^{7,9}

In our study the highest number of cases are between the ages of 65 and 75 or 35.5% of cases (N=54). Basal cell carcinoma is relatively uncommon under the age of 40 and is rather rare in adolescents.⁸ We noted from our center only 1.9% (N=3) were under 25 years old.

The distribution of anatomical sites of BCC in our study is in concordance with the literature. The highest percentage (88.2%, N=134) of all BCC lesion cases were located on the head and neck region, followed by the trunk- (6.6%, N=10), upper (3.9%, N=6) and lower limb (1.3%, N=2). Similar trends have been observed elsewhere in other parts of the world.⁸⁻¹⁰ This is most likely due to the head and neck region being the most exposed region of the body to the sun and UV radiation.

Among racial and ethnic distribution, we noted the Chinese had the highest incidence of BCC (51.3% N=78) followed by the Malays (47.4%, N=72) and only a small number in Indians and others ethnic groups making (1.4%, N=2)

It has been well established that skin type according to Fitzpatrick classification is a risk factor to developing BCC. Individuals with darker skin are less susceptible to BCC due to the abundance of melanin in their skin which is UV protective in nature.^{3,6} Among the three major races in Malaysia, the Chinese have lighter skin and Indians have darker skin colour whereas Malays generally have a skin tone in between.

As for treatment that was carried for BCC in our center, from our data, 58.6% (N=89) patients underwent excision with primary closure and 41.4% (N=63) underwent excision and reconstruction either with local flaps or full thickness skin grafts.

Our data also shows there has been a steady increase of incidence of BCC in our centre with 2017 recording the most number of cases (N=40, 26.3%).

CONCLUSION

Basal cell carcinoma is a common cutaneous malignancy. The local demographics of patients with BCC in Melaka are similar to that in the literature. There has been a steady increase in incidence of BCC in Melaka. This should prompt healthcare professionals in educating and screening of patients for BCC. We hope with the data provided, it will be a stepping stone in improving treatment in BCC not just in Melaka but also nationwide.

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Authors Contribution:


SDA- Conceptualized study, literature search, statistically analyzed and interpreted, prepared first draft of manuscript and critical revision of the manuscript; **AMY**- Concept, collected data and review of literature and helped in preparing first draft of manuscript; **IH**- Concept and design of the study, reviewed the literature, manuscript preparation and critical revision of the manuscript; **ISN**- Concept of study, collected data and review of study.


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