Head and Neck Cancer: Possible Causes for Delay in Diagnosis and Treatment

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SUMMARY

Objective: To explore the possible causes for delay in diagnosis and treatment of head and neck cancer at Sarawak General Hospital (SGH). Study Design: This is a prospective study of time interval between onset of symptom, first medical consultation, first specialist clinic consultation, diagnosis and treatment of head and neck cancer in otorhinolaryngology head and neck (ORL-HNS) and dental clinics at Sarawak General Hospital. Forty-two consecutive cases diagnosed to have cancer between July to December 2006 were studied. Results: Mean interval between onset of symptom and medical consultation was 3.8 months, mean interval between first medical consultation to ORL-HNS or dental clinic referral was 8.4 weeks, mean duration between first ORL-HNS or dental specialist consultation to histopathological diagnosis was 18.8 days while duration between diagnosis to definite treatment was 26.9 days. Conclusion: Most cases were diagnosed at advanced stage. Patient delay was the main problem. There was significant delay by frontier health workers in identifying sinister symptoms of malignancy. Timing for diagnosis and treatment after specialist referral were comparable with other published studies.

KEY WORDS:
Head and neck cancer, Diagnosis and treatment

INTRODUCTION

Head and neck cancer consists of heterogeneous groups of tumours with a multitude of histologies. It is the sixth most common neoplasm in the world today with 500,000 cases expected every year [1]. Early diagnosis and treatment are important in improving survival in any form of malignancy. Any delay may lead to more advanced disease, decrease cure rate and effectiveness of treatment, leading to higher morbidity and mortality [2].

Apart from nasopharyngeal carcinoma, other head and neck cancers are relatively easily visible or palpable on clinical examination. Still, many patients were diagnosed at advanced disease stage. Lack of alarming early symptoms resulted in a lack of impetus to seek medical attention as described by Prasad U *et al* [3].

MATERIALS AND METHODS

This is a prospective study. All the new cases diagnosed in July to December 2006 were questioned on onset of presenting symptoms, date of first medical consultation based on the outpatient record and date of ORL-HNS or dental specialist consultation. All the patients were followed up. Date of diagnosis and treatment (surgery, radiotherapy or chemotherapy) and staging of disease at diagnosis were recorded.

The tumours were staged based on TNM staging of American Joint Committee on Cancer (AJCC) classification [4].

The following duration were calculated:

1. Interval between onset of presenting symptom before seeking medical treatment (in months)
2. Interval between first medical consultation and first ORL-HNS/Dental specialist referral (in weeks)
3. Interval between first specialist visit till final diagnosis (in days)
4. Interval between diagnosis and treatment (in days)

RESULTS

There were a total of 42 new head and neck cancer cases registered within the six months study period. There were 26 males (62%) and 16 females (38%). Racial distribution of patients were 13 patients were Malay (31%), 13 patients were Iban (31%), 11 patients were Bidayuh (26%), four patients were Chinese (10%) and one patient was Kayan (2%). Education level of patients was based on their highest level of education. Among them 20 patients (47.6%) had no formal education, 13 patients (31%) had primary school education and nine patients (21.4%) had secondary school education. None had tertiary level education.

For formal histological diagnosis, out of the 42 patients, one patient had occult cervical lymph node malignancy with unknown primary. Twenty patients (48.8%) had nasopharyngeal carcinoma, followed by six patients (14.6%) with buccal carcinoma. The rest includes three laryngeal carcinoma (7.3%), two thyroid carcinoma (4.9%), two maxillary carcinoma, (4.9%), two tongue carcinoma (4.9%), two tonsillar carcinoma (4.9%), one alveolar ridge carcinoma (2.4%), one temporal bone carcinoma (2.4%), one floor of mouth carcinoma (2.4%) and one hard palate carcinoma (2.4%). (Fig. 1)

All the 41 patients were staged based on the AJCC classification4 at the time of diagnosis, except one patient with occult primary. Out of 41 patients, three patients (7.3%)

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Table I: Mean and range of different intervals between onset of symptoms to treatment

Interval	Mean	Range
Interval between onset of symptoms to first medical consultation	3.8 months	2 days to 2 years
Interval between first medical consultations to ORL-HNS/Dental Specialist consultations	8.4 weeks	Immediate to 29 weeks
Interval between first specialist clinic consultations to diagnosis	18.8 days	None to 152 days
Interval between diagnosis to treatment	26.9 days	10 to 77 days

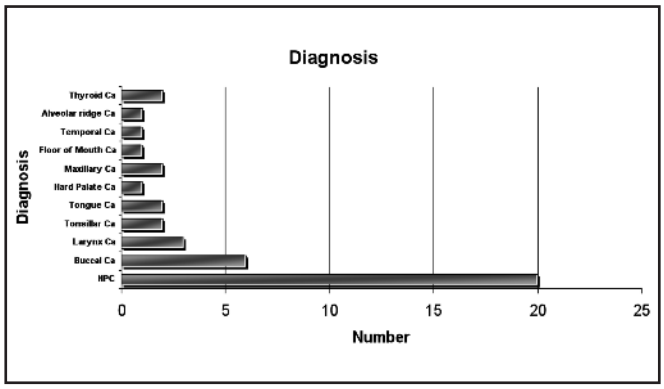

Fig. 1: Breakdown of diagnosis of subjects.

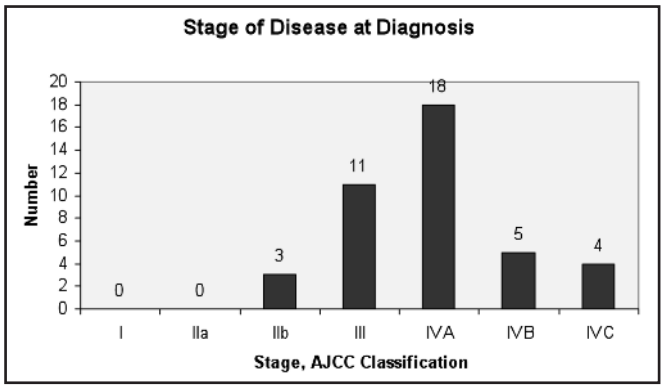

Fig. 2: Stage of Disease at Diagnosis.

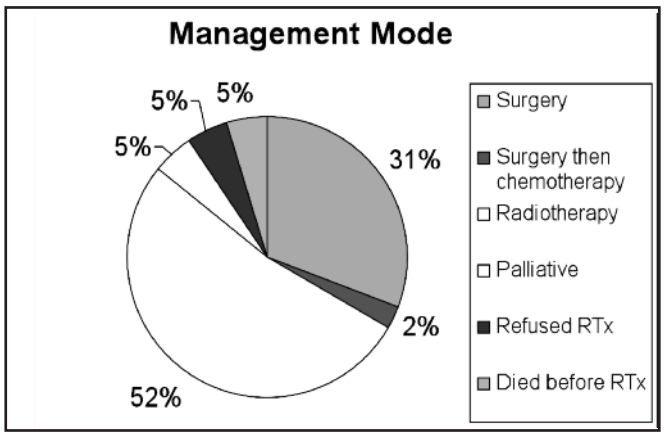

Fig. 3: Management mode for subjects.

had Stage IIb, 11 patients (26.8%) had Stage III, 18 patients (43.9%) had Stage IVa, five patients (12.2%) had Stage IVb and four patients (9.8%) had Stage IVc. (Fig. 2)

Twenty-two patients (52%) received radiotherapy alone, 13 patients (31%) had surgery and one patient (2%) had surgery followed by chemotherapy. Two patients (5%) received palliative care, two patients (5%) refused any form of treatment and two patients (5%) died before any form of treatment was able to be initiated. (Fig. 3)

The range for interval between onset of symptoms to first medical consultation was from two days to two years with the mean of 3.8 months. The range of interval between first medical consultations to ORL-HNS/Dental specialist, Sarawak General Hospital referral was from immediate referral to 29 weeks with the mean of 8.4 weeks. The range of interval between first specialist clinic (including referring specialist clinics) consultations to diagnosis was from none to 152 days with the mean of 18.8 days (One patient was referred by private ENT surgeon to SGH with tissue diagnosis.). The range of interval between diagnosis to treatment was from ten to 77 days with the mean of 26.9 days. (Table I)

DISCUSSION

Patient delay is defined as the time between date of recognition of first sign or symptom of the disease by the patient and date of first medical consultation. Professional delay is defined as the time between first medical consultation and date of histopathological diagnosis. While professional delay can be measured in a relatively accurate way, patient delay is prone to measurement error. The date of onset of symptoms is based on perception, which is highly subjective and may be influenced by several social and cultural factors [5].

Late patient presentation is the main cause of delay. This is also described by Prasad U *et al* [3]. The reasons for late patient presentation may be lack of patient awareness, difficulty in transfer from rural area, low or no formal education especially in the rural area of Sarawak.

Patients in Sarawak tend to seek traditional treatment first for their ailments, thus delay in medical consultation. They may still resort to traditional treatment at any point of time, even after specialist diagnosis and initiation of therapy. When rural patients presented late after failed traditional treatment and died in hospital, other rural patients perceived this as modern treatment causing mortality in hospital. Similarly in Southern Thailand, traditional herbal treatment led to significant longer patient delay [6].

Another reason for delay may be lack of accessibility to the health care facility. As the state of Sarawak is as big as peninsular Malaysia, some patients stay at very remote area and need to travel long hours to access medical advices. Furthermore, most of them are farmers with poor financial

support, this increases the difficulty to seek medical attention. However, the authorities have noted and addressed this issue by implementing certain plans and improving infrastructures and medical facilities.

Failure of health workers in picking up malignant symptoms and signs is a common problem. Even at ORL-HNS/Dental specialist level, there was one case of nasopharyngeal carcinoma who presented with middle ear effusion and the primary disease was missed for 79 days. Karwasra et al reported 58% of the qualified medical physicians delayed the diagnosis of cancer in the symptomatic patient [7].

In Sarawak General Hospital, any referral of suspected head and neck malignancy cases are seen in the next available clinic day. There are two ORL-HNS clinic days per week; therefore any referral can be seen within a couple of days.

Accurate and early histopathological report is essential in oncology management. Many specimens in Sarawak General Hospital were sent to private laboratory at patient's own expense for faster testing and result, generally within three days. This is in contrast to government laboratory which takes two to three weeks generally.

After tissue diagnosis (HPE), blood and urine test and radiological investigation are needed prior to radiotherapy planning and treatment. Much time is spent waiting for radiological appointment before initiating radiotherapy planning. However, there has been improvement recently with early computed tomography scan reporting and film release due to increase staffing in radiology department.

Fifty two percent of the subjects were treated with radiotherapy, since almost half of the patients had nasopharyngeal carcinoma. Waiting time for radiotherapy planning and therapy was another major delay. Sarawak General Hospital is the only radiotherapy centre in the whole Sarawak, receiving referral from both government and private hospital. Many radiotherapy centers worldwide also have substantial waiting lists despite efforts to prevent these from occurring [8,9]. In head and neck cancer, two large studies showed significant increase in local relapse rate if radical radiotherapy was delayed beyond 40 days [10,11].

Current operation time is limited, as each department is only allocated specific days of the week for oncology and non-oncology surgery. This limits the number of cases operable at Sarawak General Hospital. Suggestion of extra operation time dedicated for oncology surgery may shorten the treatment delay. However, lack of the availability of operating theatre time is always the obstacle to address this issue.

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CONCLUSION AND SUGGESTION

The majority of head and neck malignancies were diagnosed at advanced stages. Major cause of delay is due to late presentation. Therefore Public Health Department should work together with ORL-HNSD/Dental Department to conduct relevant campaigns to educate the community regarding early signs and symptoms of malignancies. Information on danger of carcinogenic substances like betel-nut chewing, tobacco chewing, and smoking need to be distributed. In addition, the authorities should improve the accessibility of health care system in the state of Sarawak in order for every resident to reach the health care services easily.

First line health workers including doctors, medical assistants and nurses play the key role to identify sinister symptoms and to refer early. High index of suspicion is essential. Therefore teaching institution for health care worker should put more emphasis on teaching and clinical exposure to common malignancies.

Interval between specialist consultations to diagnosis and definite treatment is within acceptable range; although there is still room for improvement.

Improvement in equipment and staffing in various departments involved in cancer management are needed, namely Pathology, Radiology, Radiotherapy Unit & Operating Theatre.

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