

Head And Neck Malignancy In The Northern Territory

M Thomas, J Singh, C Scott, R Jayaraj

Citation

M Thomas, J Singh, C Scott, R Jayaraj. *Head And Neck Malignancy In The Northern Territory*. The Internet Journal of Head and Neck Surgery. 2009 Volume 4 Number 2.

Abstract

We set out to study the incidence of H&N cancers and the stage at presentation as seen in the Maxillofacial/Head and Neck Surgical Department's Clinic at the Royal Darwin Hospital, Darwin, Northern Territory (NT), Australia. This letter highlights the data pertaining to the stage of presentation of Head and Neck malignancy among Indigenous and non-Indigenous population in NT.

INTRODUCTION

The incidence of Head and Neck (H&N) malignancies in the Northern Territory (NT) of Australia has been previously under-reported (Condon, Armstrong, Barnes, & Zhao, 2005); this was probably due to the fact that treatment of these cancers was interstate by default until March 2005. This position changed with the appointment of the author, and the establishment of a Head and Neck Multidisciplinary Team at the Royal Darwin Hospital, Darwin, Northern Territory in 2005.

METHODS

Patients treated for a Head and Neck malignancy at the Maxillofacial/Head & Neck Surgical Clinic from March 2005 to December 2007 were included in this study. This study was done retrospectively, with approval from the Human Research Ethics Committee of the Menzies School of Health Research, Darwin, NT.

This did not include those patients who were treated for a squamous cell carcinoma or basal cell carcinoma of the skin, which did not involve other organs or nodes of the neck.

All patient records were collected, and data was obtained from the human subjects. The Aboriginal and Torres Strait Islander status (ATSI), cause of presentation, and the final staging at the initial presentation (inclusive of clinical, radiological and pathological staging) was determined using the tumor-node-metastasis (TNM) staging method (Table 1), which applies to the Larynx, Oropharynx, Hypopharynx, Oral Cavity, Salivary Glands, and Paranasal Sinuses. For malignancies of the thyroid, the American Joint Committee on Cancer (AJCC) staging was employed, as it is most

widely used. Data collected was analyzed for variations between stage at presentation for Indigenous and non-Indigenous patients.

STAGING GROUP

Clinical stage grouping by tumour and node status

Figure 1

Table 1. TNM stage grouping of Head and Neck malignancies in Northern Territory, Australia

| | | | | | |
|----|-----|-----|-----|-----|-----|
| N0 | I | II | III | IVa | IVb |
| N1 | III | III | III | IVa | IVb |
| N2 | IVa | IVa | IVa | IVa | IVb |
| N3 | IVb | IVb | IVb | IVb | IVb |

RESULTS AND DISCUSSION

The records of all 110 patients who were treated for H&N cancers during this period were accessible. There were 52 Indigenous and 58 non-Indigenous patients among this group.

The cause of presentation in the Indigenous group was bleeding or trismus in 81%; 12% were detected during the repair of a facial fracture or the drainage of a neck abscess. All the non-Indigenous patients presented with either a mass lesion or an ulcer or with symptoms of throat irritation. This is higher than previous estimates, and is possibly due to the default position of management of all such cancers interstate until early 2005.

HEAD AND NECK MALIGNANCIES IN THE NT

The incidence of head and neck cancers (mucosal aero-digestive tract, salivary gland, thyroid and very advanced skin malignancies) appears to be 19.4 per 100,000 per year. The incidence of H&N cancers in the Indigenous population of the NT appears to be 32.78 per 100,000 per year, which is far higher than the rest of Australia.

INCIDENCE IN INDIGENOUS POPULATION

While the Indigenous population of the NT is 28% overall, this segment of the NT accounts for over 47% of the H&N cancers presenting at the RDH. It is still feasible that the number of non-Indigenous patients may be an underestimate, as some of them may choose to travel interstate for their management, particularly with private insurance. If so, the percentage of Indigenous persons may be an overestimate of the true numbers.

STAGE OF PRESENTATION

The late presentation of Indigenous patients with a cancer has been shown to occur in other cancer streams; therefore it is not a surprise to determine the same in the head and neck. The staging of the cancer at presentation and statistical analysis was as shown in Table 2 and Table 3 respectively. However, it is of note that the major difference in the reason to present between the two groups was functionality. Trismus or bleeding from a tumour was what brought the majority of Indigenous patients to medical care.

Figure 2

Table 2. Stage of presentation, Indigenous versus non-Indigenous

| Stage | Indigenous population | Non-Indigenous population |
|-------|-----------------------|---------------------------|
| 0, 1 | 2 | 29 |
| 2 | 3 | 23 |
| 3 | 19 | 4 |
| 4a | 12 | 2 |
| 4b, c | 16 | 0 |

Those Indigenous patients detected at an early stage were fortunate in having their cancer detected while undergoing a surgical procedure under this department, either for facial trauma or for a head and neck infection, or while being examined in prison.

On the other hand, in the non-Indigenous group, presentation was early, and the commonest symptom was a mass or an ulcer. Awareness and the eagerness to address an abnormality seem to underline the differences, which are highly significant statistically.

Figure 3

Table 3. Statistical analysis of stage of presentation, Indigenous versus non-Indigenous population in NT. (Chi Square =67.1841; df =1; =0.000)

| Stage of Disease | Ethnicity Status | | Total |
|-----------------------------|-----------------------|---------------------------|-------|
| | Indigenous population | Non-Indigenous population | |
| Early (Stage 0-2) | 5 (9.6%) | 52 (89.7%) | 57 |
| Late (Stage 3, 4a, 4b, 4c) | 47 (90.4%) | 6 (10.3%) | 53 |
| Total | 52 (100%) | 58 (100%) | 110 |

CONCLUSION

The incidence of H&N malignancies in the NT is higher than previously understood; the incidence seems to be higher in Indigenous Australians in the NT. It is clear that Indigenous Australians in the NT present with a later stage of H&N cancers than other sectors of the population in the NT.

The inclusion of an oral examination into the annual health assessment of Indigenous Australians in the NT would go a long way towards bridging this gap; the use of directed technology such as the VELscope may be a simple solution.

References

1. Condon, J.R., Armstrong, B.K., Barnes, T., & Zhao, Y: Cancer incidence and survival for Indigenous Australians in the Northern Territory. Australian and New Zealand Journal of Public Health; 2005; 29(2), 123-128.

Author Information

Mahiban Thomas

Director of Head and Neck Surgery, Royal Darwin Hospital

Jagtar Singh

Masters By Research Student, Charles Darwin University

Cameron Scott

Maxillofacial Registrar, Royal Darwin Hospital

Rama Jayaraj

Lecturer, Charles Darwin University