

# headandneck 5000

## A descriptive analysis of nasopharyngeal tumours from Head and Neck 5000

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### Scientific outline

Introduction: Nasopharyngeal cancer (NPC) is rare in native Western populations with an incidence of 0.2-0.4 per 100,000. There is, however, marked geographical variation; in the Cantonese population of Southern China the incidence is 21 per 100,000. Indeed in Hong Kong NPC is the fourth commonest cancer by incidence [1]. Both environmental and genetic factors are thought to contribute to this variation. Environmental risk factors for NPC include smoking, a diet high in salted fish and infection with the Epstein-Barr virus (EBV) [1], while a recent large genome-wide association analysis has identified 3 Single Nucleotide Polymorphisms (SNPs) which are associated with an increased risk of NPC [2].

NPC represents a small proportion of all head and neck malignancies in the UK; in the 10<sup>th</sup> Annual DAHNO audit of Head and Neck cancer in England & Wales, 151 new cases of NPC were diagnosed between 2013-2014 compared to 2,684 cases of oral cavity cancer and 2,439 cases of oropharyngeal cancer. Despite the low incidence of the disease in the UK, it is however, associated with significant morbidity and mortality [1].

Epidemiological and descriptive studies on patients with NPC in Western populations are limited [3]. This likely reflects the low incidence of the disease in these populations. The Head and Neck 5000 dataset provides an opportunity to examine this rare group of tumours in detail.

Methods: The Head and Neck 5000 database will be analysed to identify cases of nasopharyngeal cancer.

Demographic data will be entered into contingency tables and analysed using STATA (Release 14, StataCorp, TX, USA) to determine the frequency of individual variables. Outcome data will include age, gender, ethnicity, smoking & alcohol history, sexual history and occupational history,

comorbidity, tumour stage, histological type, pattern of lymph node involvement, treatment, loco-regional or distant recurrence and mortality at 12-months.

Pathological data will be interrogated to identify the anatomical sub-site of the tumours within the nasopharynx.

These data will be used to perform a descriptive analysis of patients with NPC from Head and Neck 5000. This will provide a new insight into a rare group of head and neck malignancies, which may be used to inform discussion with patients in a UK setting and guide further research.

Summary: Nasopharyngeal cancer (NPC) is rare in the UK, with approximately 150 new diagnoses per year. It often presents at an advanced stage and is associated with significant morbidity and mortality. The incidence of NPC varies considerably around the world; it is more common in Southeast Asia, and as a result, the majority of population-based studies into NPC have been performed in this area. Data on NPC from European and North American populations is limited, and very few studies report data from patients with NPC in the UK. Head and Neck 5000 provides a valuable opportunity to examine this rare group of tumours in detail. This study will use existing data from Head and Neck 5000 to provide an accurate descriptive analysis of NPC. This will improve the current understanding of this rare group of tumours in the UK setting, and will help to guide future research in this group of patients.

#### References

1. Lee, A.W., et al., *The battle against nasopharyngeal cancer*. *Radiother Oncol*, 2012. **104**(3): p. 272-8.
2. Bei, J.X., et al., *A genome-wide association study of nasopharyngeal carcinoma identifies three new susceptibility loci*. *Nat Genet*, 2010. **42**(7): p. 599-603.
3. Burt, R.D., T.L. Vaughan, and B. McKnight, *Descriptive epidemiology and survival analysis of nasopharyngeal carcinoma in the United States*. *Int J Cancer*, 1992. **52**(4): p. 549-56.