



## Service Priorities and Programmes Electronic Presentations

**Convention ID:** 1117

**Submitting author:** Prof Oi Yan Yoyo YIU

**Post title:** Chief of Service, Queen Mary Hospital

### **Speech, Hearing and Swallowing Impairments in Children with Cancers**

*Yiu OY (1)(2), Wong HS (1), Chan GCF (1)*

*(1) Department of Paediatrics and Adolescent Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong*

*(2) Speech Therapy Department, Queen Mary Hospital*

#### **Keywords:**

childhood cancer

speech

swallowing

complications

prevalence

onset time

#### **Introduction**

Survival rates of childhood cancers have increased significantly in recent years and long-term complications have emerged to be an important issue. Impairments in speech, hearing and swallowing have been documented in various pediatric cancers, but their prevalence and onset time were rarely studied.

#### **Objectives**

This study investigated the prevalence and onset time of these impairments in selected childhood cancers, also explored the cause of complication in terms of tumor site and cancer treatment applied. This would facilitate pediatric oncology professionals in informative counseling to patients and follow-up arrangement, as well as allocating speech therapy services and planning staff training.

#### **Methodology**

A retrospective cohort study was conducted in Queen Mary Hospital on children with Acute Lymphoblastic Leukemia (ALL), Stage 4 Neuroblastoma (NB), Head and Neck (H&N) Cancers, and Brain Tumors (BTs). All patients who received standard treatment were included, and 318 medical files were reviewed. Prevalence of each complication for different diagnoses was calculated. Survival analysis was also performed for survival rate and onset time, with adjusting confounding factors including age of diagnosis and gender.

## **Result**

Speech and hearing impairments were most prevalent in BTs with prevalence rate of 32.8% and 52.8% respectively, whereas swallowing impairments were most commonly found in H&N cancers with a prevalence rate of 47.4%. Subjects with BTs, H&N cancers and stage 4 NB had significantly higher chance of developing complications when compared with those with ALL. Younger age of diagnosis was a protective factor for developing speech impairment. Complications tended to occur within five years after diagnosis of cancer was made in subjects with stage 4 NB and ALL, but could occur beyond the tenth year for those with BTs and H&N cancers. This is the first local study to report prevalence and onset time of speech, hearing and swallowing complications in patients with four childhood cancers. They were found to vary greatly with diagnoses. Results suggested the occurrence of complications was both cancer- and treatment-related, and the chance of developing long-term complication could also be related to possible neuroplasticity for compensation. Findings would facilitate long-term care of childhood cancer survivors, as in treatment selection and counseling for patients. They also provided an evidence-based time frame for performing relevant screening for complication so as to optimize management for this population.