Oncology
and Radiotherapy ©
17 (7) 2023: 001-004 • REVIEW ARTICLE

Oral cancer in children- A brief on the latest ongoings

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ABSTRACT

Children are unique in the sense that they have varied healthcare needs including oral health. Paediatricians and paediatric dentists play an all-important role in diagnosing, preventing, screening and treating various oral diseases. Although oral cancer in children is very rare, unfortunately, it does happen. Most of the oral tumours are benign but still, we have to ensure that. If any malignant changes are seen they have to be detected early so that the child benefits from early diagnosis and treatment plan accordingly.

Key words: carcinoma, oral, paediatric cancer

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Word count: 2196 **Tables:** 00 **Figures:** 00 **References:** 20

Received:- 29 December, 2022, Manuscript No. OAR-22-85017

Editor assigned:- 31 January, 2022, PreQC No. OAR-22-85017 (PQ)

Reviewed:-10 February, 2023, QC No. OAR-22-85017 (Q)

Revised:- 21 June, 2023, Manuscript No. OAR-22-85017 (R)

Published:-14 July 2023, Invoice No. J-85017

INTRODUCTION

Oral cancer is a deadly condition wherein the cells grow exponentially and damage oral tissues. This can affect any part of the oral cavity including, the tongue, lips, buccal mucosa, and throat. Oral cancer is quite common, with 377,700 cases worldwide [1]. Lip and oral cavity cancers are the sixteenth most common cancers overall, the eleventh most common cancers in men and the eighteenth most common cancers in women. This is a fatal condition, which when left undiagnosed early and untreated can lead to death very fast. Oral carcinoma can affect any age group but children getting affected is a rarity. According to the surveillance, epidemiology, and results program stat fact sheets, only 0.6% of all cases are diagnosed in patients younger than 20 years [2].

REVIEW OF LITERATURE

Oral cancer refers to the formation of cancerous cells in the tissues of the mouth or oral cavity. The cancer cells can be found in the following parts:

1. Gingiva.
2. Anterior two-thirds of the tongue.
3. Buccal mucosa.
4. Hard Palate.
5. The floor of the mouth.
6. Retro-molar area [3].

Most lesions found in the oral cavity of children are benign. Lymphomas and sarcomas are malignant and are commonly seen in children. Squamous Cell Carcinoma (SCC) which is commonly found in adults has rarely been reported in children. Approximately 1 in 1000 cases of head and neck SCC will occur in patients 20 years or younger [4]. Although there is a vast literature examining outcomes of SCC in young adults (<40 years), there is no literature on SCC in paediatric patients, other than isolated case reports [5]. Squamous cell carcinoma in young patients is believed to be etiologically distinct from Squamous cell carcinoma in older adults owing to less significant exposure to risk factors such as tobacco and alcohol [6]. This distinction in aetiology would be especially pronounced in paediatric patients, in whom genetic syndromes such as Fanconi anaemia, Xeroderma pigmentosum, Keratosis-Ichthyosis-Deafness (KID) syndrome, or other unidentified genetic risk factors may be contributory [7,8]. In young patients with head and neck SCC, the oral tongue is the most common primary site. Squamous cell carcinoma of the tongue in children and adolescents poses special challenges

for parents and physicians owing to the emotional aspects and technical challenges of safe oncologic resection in young patients [9]. Nevertheless, we believe that the preponderance of case reports of aggressive disease and poor outcomes in paediatric patients is not an accurate reflection of true outcomes, based on the small number of patients reported in various case reports. In fact, as a group, paediatric patients with oral cavity SCC experience better survival outcomes than adults. When pertinent differences in stage, grade, and treatment are controlled for, outcomes are identical, suggesting that paediatric patients should receive the same therapy that is the standard of care for adult patients [10,11].

DISCUSSION

The major risk factors for cancer are excessive tobacco or alcohol use and the presence of the Human Papilloma Virus (HPV) but they do not apply to children. But still, it is not impossible for children to be affected with this fatal condition, if the child had other health-related issues or has a genetic predisposition for cancer. More than 90% of tumours in the children's oral cavity are benign and harmless [12]. The most common types of cancer in young patients, if they do occur in the oral cavity are sarcoma and lymphoma. Squamous cell carcinoma is very rare in children. Recently it has been observed that there is an increasing incidence of oral SCC in the younger population of several countries [13]. The role of traditional risk factors such as tobacco, alcohol, betel quid chewing, and low consumption of fruits and vegetables is unclear in this age group. Some studies have suggested that these patients may exhibit a predisposition to genetic instability. There is a general trend in reported studies for SCC of the oral cavity in young patients to be particularly aggressive and carry a poorer prognosis than in older patients [14]. A poorer prognosis in young patients could be due to a differing disease aetiology and tumour behaviour or delay in presentation and/or diagnosis (patients' and/or doctors' delay), the latter playing a role in the currently presented case. Presentational and diagnostic delays may arise because of the reduced expectation of cancer in the young patient.

Risk factors for oral cancer

The risk factors for oral cancer in children and young adults are:

1. Being infected with HPV.
2. Having genetic conditions, like Fanconi anaemia, dyskeratosis congenital, connexin gene mutations, and epidermolysis bullosa.
3. Severe graft versus host disease [15].

Certain signs and symptoms may lead to the suspicion of oral cancer in children:

1. An ulcer inside the mouth that does not heal.
2. A lump or abnormal thickening inside the oral cavity.
3. A white or red patch in the oral cavity.
4. Bleeding or pain in the mouth [16].

Tests to find oral cancer

The tests which can be performed to find oral cancer in children are:

1. Oral examination: A thorough examination of the oral cavity for abnormal growth. This is usually done with a gloved hand and a mirror under lights. The examination will reveal any abnormal growth or enlarged lymph nodes.
2. Magnetic Resonance Imaging (MRI): The use of magnetic and radiation waves to detect any abnormal areas in the head and neck region.
3. Computed Tomography (CT) Scan: This makes detailed pictures of areas in the head and neck region which are taken from different angles. A dye can be used to get better visuals.
4. Positron Emission Tomography (PET scan): A technique which detects the malignant cells inside the body. A small amount of radioactive sugar is pushed inside a vein. The PET scanner rotates around the body to find out where the glucose is used inside the body. The malignant cells appear brighter than the normal cells as they are more active in taking up glucose than normal cells.
5. Biopsy: Fine Needle Aspiration Cytology (FNAC): Here a thin needle is used to remove fluid or tissue. Incisional biopsy: a part of growth which is abnormal is removed for examination. There is no standardised staging system for oral cancer in children [17].

Treatment

There are various options for oral cancer treatment in children. The planning of treatment should be done by a team of doctors who are trained experts in treating cancer in children. The team should have the following specialists- a paediatrician, paediatric oncologist, paediatric dentist, paediatric surgeon, paediatric nurse, social worker, paediatric ENT specialist, rehabilitation specialist, and speech therapist [18].

There are two treatment protocols available:

1. The standard procedures include surgery, chemotherapy and radiotherapy.
2. Treatments in clinical trials like targeted therapy (here the specific cancer cells are detected and targeted with the latest drugs) [19].

A treatment clinical trial is a research protocol wherein a new treatment is tried on new oral cancer patients which is thought to be more beneficial than the standard treatment. The oral cancer prevalence in children is very less so more clinical trials should be encouraged to find better and safer treatments for children. Many of today's standard protocols were once clinical trials in earlier times. The paediatric oral cavity cancer treatment has a database PDQ (Physician Data Query) [20]. This is National Cancer Institute's (NCI) database that provides all the information related to cancer prevention, detection, genetic variations, treatment protocols, palliative care and support for oral cavity cancer treatment in children.

CONCLUSION

Children are the future of the world and that way it has to be kept

in mind that early detection and proper treatment are rendered to them at the earliest so that they can grow into healthy adults and fulfil their dreams.

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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