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Squamous cell carcinoma of Oesophagus in a child: A rare report with review of literature

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Abstract
Purpose: Squamous cell carcinoma of the oesophagus is rarely seen in children and young adults and is a malignancy of adults having worse outcome. The present report describes a case of squamous cell carcinoma of oesophagus in 15 year old male with review of literature.
Method: A 15-year-old male child presented with progressive dysphagia and was diagnosed as squamous cell cancer of the oesophagus. After complete workup, the patient was started on concurrent chemo radiation.
Result: Patient could not complete the treatment due to rapid deterioration of his general condition and eventually succumbed to the disease within 2 months.
Conclusion: The present report serves to emphasize on the rarity of oesophageal cancer in children and on the aggressiveness of the tumor exhibiting a rapid course and therefore, merits an intensive approach for the diagnosis and management.

Keywords: oesophageal cancer; prognosis; squamous cell carcinoma; treatment

Introduction
Squamous cell carcinoma (SCC) of the oesophagus is generally seen in the adults over 50 years of age and has a relatively poorer outcome, especially in advanced stages. It is rarely seen in children with only few cases reported in the literature. We describe a case of SCC of oesophagus in 15-year-old male child who presented with a short history of progressive dysphagia and deteriorated rapidly while on treatment. A brief review of literature on childhood cancer oesophagus is also presented.

Case history
A 15-year-old male presented with progressively increasing dysphagia of three months duration. At presentation, he could only swallow liquids with effort. There was associated interscapular and retrosternal pain which was unrelated to swallowing. There was no history of ingestion of corrosive substances nor was he on any medications, such as antibiotics or non-steroidal anti-inflammatory drugs (NSAIDs). There was no significant family history regarding oesophageal problems, gastrointestinal malignancies or genetic disorders. Clinical examination was normal except for cachexic look and thin built. There was no keratinisation of hands and soles to suggest tylosis. Except for low haemoglobin (7.5 gm %), other laboratory investigations were normal. An upper gastrointestinal endoscopy showed an ulcerated and nodular growth at lower end of oesophagus, extending into gastro esophageal junction and fundus of stomach. Biopsy from the growth was suggestive of moderately differentiated squamous cell carcinoma. Barium swallow showed proximal dilatation of the oesophagus and near complete hold up of the contrast
(Figure 1). A contrast enhanced computer tomographic scan (CECT) of the chest and abdomen revealed marked asymmetric circumferential mural thickening involving lower thoracic oesophagus, gastrointestinal junction, gastric cardia and proximal part of body of the stomach causing significant luminal compromise *(Figure 2).* Angle of contact with the descending thoracic and abdominal aorta was more than 90 degree. There was neither significant lymphadenopathy nor visceral metastases. The lesion was considered unrespectable initially and the patient was planned for preoperative chemo-radiation. Feeding jejunostomy was done to maintain the nutrition. The proposed plan was to give external radiotherapy to a dose of 50.4 Gy in 28 daily fractions over 5 weeks and concomitant chemotherapy consisting inj. Cisplatin- 75mg/m2 i.v on day 1and infusional 5-fluorouracil- 1gm/m2 i.v on days 1-4 and days 25-28. However, patient could not complete the treatment due to rapid deterioration of his general condition and eventually succumbed to the disease within 2 months.

Discussion
Oesophageal carcinoma is primarily seen in adults with a peak incidence in the sixth and seventh decade. It is rarely encountered in children and young adults [1].
It is well known from the literature that oesophageal epithelial tumours arise as a result of chronic irritation after a long latent period of carcinogenesis [2]. This may account for its rare occurrence in childhood. Exposures to environmental risk factors and nutritional deficiencies in childhood and early life might be responsible for inflammation and weakened oesophageal epithelium, resulting in a condition possibly more favourable for the development of oesophageal cancer [3, 4]. This postulation however needs further investigation in case of oesophageal cancer occurring in children as it has long latent period. Oesophageal cancer may develop because of tobacco chewing, consumption of extremely hot beverages, excessive use of particular spices, or mouldy foods [3, 5].
Premalignant conditions for the disease include tylosis, achalasia, esophageal diverticula, lye stricture, and Plummer-Vinson syndrome [5]. A national survey conducted in the USA during 1952-1956 reported only three deaths from oesophageal tumour in the age group of 0-14 years, while a comparable series from England did not report any cases [6]. No such cases were reported during a cancer survey of 1969-1971 and SEER program in 1976 [7]. Moore *et al* in 1958 have

reported a case of oesophageal cancer in 14 year old boy [8]. In 1968, a well-differentiated squamous cell carcinoma of the upper oesophagus occurring in a 15-year old year Korean boy was reported by Kinnman *et al*. [9] This patient had history of accidental lye ingestion at three years of age, followed by varying degrees of dysphagia.

A few patients of childhood oesophageal squamous cell carcinoma have also been reported from India [11, 12]. The youngest patient reported was an eight-year old girl from India with oesophageal carcinoma in the middle- third with lung metastases [10]. In 2000, oesophageal carcinoma was reported in a 15 year old girl by Allam AR *et al*. [5] Semnani N *et al*. in 2005 reported oesophageal cancer in an opium addicted Iranian 20 year old young male [13]. Singh *et al* in 2010 reported oesophageal carcinoma in a 16 year old girl 8 years after gastrotomy done for trichobezor [14]. In the same year, Hedawoo *et al*. also reported squamous cell carcinoma of oesophagus in a 15 year old boy [15]. In 2012, Issaivanann *et al.* reported a case of squamous cell carcinoma in a 14 year old African American male with multiple associated other problems like polycystic kidney disease, multinodular goitre, vesicourethral reflux and hiatal hernia [16].

This disease has worse prognosis in younger patients as compared to the older ones not only due to aggressive biological nature of the tumour in the young but also due to delay in diagnosis and hence treatment. The delay is because this clinical and diagnostic presumption is least thought in this age group.

Oesophageal cancer in the pediatric and adolescent age group is considered rare and therefore there are no specific clinical trials designed to establish the management guidelines [17]. The treatment principles are generally extrapolated from the experience in adult patients, which unfortunately has shown suboptimal results in children. Therefore, considering the aggressive biology and nature of this malignancy in children (as seen in the current patient), it is imperative that evidence based guidelines are laid in order to improve the dismal outcome.

Conclusion

We report a rare case of squamous cell carcinoma of oesophagus in a 15 year old boy. It is an aggressive tumor exhibiting a rapid course and therefore, merits an intensive approach for the diagnosis and management. Evidence based guidelines specific to children are needed for better management of this dreaded malignancy.

References

1. Rosenberg JC. Cancer of the esophagus. In: Devita VT, Hellman S, Rosenberg SA, editors. Cancer: principles and practice of oncology. Philadelphia: JB Lippincott Co, 1982, 725-64.
2. Kleinberg LR, Brock MV, Jagannath SB, *et al*. Cancer of the esophagus. In: Abeloff MD, Armitage JO, Niederhuber JE, *et al*?, eds. Abeloff's Clinical Oncology. Philadelphia, PA: Churchill Livingstone Elsevier, 2008, 1399-1423.
3. Chang Claude JC, Wahrendorf J, Liang QS, *et al*. An epidemiological study of precursor lesions of esophageal cancer among young persons in a high risk population in Huixian, China. Cancer Res. 1990; 50:2268-74.
4. Guo WD, Li JY, Blot WJ, *et al*. Correlations of dietary intake and blood nutrient levels with esophageal cancer mortality in China. Nutr Cancer. 1990; 13:121-7.
5. Allam AR, Fiaz M, Fazili FM, Khawaja FI, Sultan A. Esophageal carcinoma in a 15-year-old girl: A case report and review of the literature. Ann Saudi Med. 2000; 20:261-5.
6. Pickett LK, Briggs HC. Cancer of the gastrointestinal tract in childhood. Paediatr Clin North Am. 1967; 14:223-34.
7. Sutow WW. General aspects of childhood cancer. In: Sutow WW, Fernbach DJ, Vielti TJ, editors. Clinical paediatric oncology. 3rd edition. CV Mosby Co, 1984, 1-13.
8. Moore C. Visceral squamous cancer in children. Paediatrics. 1958; 21:573.
9. Kinnman J, Shin HI, Wetteland P. Carcinoma of the oesophagus after lye corrosion. Acta Chir Scand. 1968; 134:489-93.
10. Soni NK, Chatterji P. Carcinoma of the oesophagus in an eight-year old child. J Laryngol Otol. 1980; 94:327-9.
11. Shahi UP, Sudarsan S, Dattagupta S, *et al*. Carcinoma esophagus in a 14-year-old child: report of a case and review of literature. Trop Gastroenterol. 1989; 10:225-8.
12. Karwasra RK, Yadav V, Bansal AR. Esophageal cancer in a 17-year-old man. Am J Gastroenterol. 1999; 94:1122-1123,
13. Semnani. N, Abdollahi KH, Kalavi and R. Azarhoosh. Esophageal cancer in an Iranian 20 years old young male – A case report. International Journal of Cancer Research. 2005; 1(1-2):57-59.
14. Onkar Singh, Shilpi Gupta, Praveen Baghel, Sapna Shukla, Dharamdas Paramhans, and Raj K. Mathur. Esophageal Carcinoma in a 16-Year-Old Girl 8 Years After Gastrotomy Journal of Clinical Oncology. 2010; 28:1.
15. Hedawoo JB, Nagdeve NG, Sarve GN. Squamous cell carcinoma of esophagus in a 15-year- old boy J Indian Assoc Pediatr Surg. 2010; 15(2):59-61.
16. Issaivanan M, Redner A, Weinstein T, Soffer S, Glassman L, Edelman M, Levy CF. Esophageal carcinoma in children and adolescents. J Pediatr Hematol Oncol. 2012; 34(1):63-7.
17. Ferrari A, Bisogno G, De Salvo GL, *et al*. The challenge of very rare tumors in childhood: the Italian TREP project. Eur J Cancer. 2007; 43:654-659.