Squamous Cell Carcinoma of Oesophagus with Tracheo-
Esophageal Fistula, Pulmonary Tuberculosis and
Hyperthyroidism in 16 yrs Old Female

Vitull K Gupta¹, Jang Bahadur Singh², Ajesh Bansal³, Meghna Gupta⁴

Abstract
This case of a 16-year-old female with moderately-differentiated squamous cell carcinoma of the esophagus with tracheo-esophageal fistula, hyperthyroidism and sputum positive pulmonary tuberculosis with RNTCP Category 1 DOTS is reported because of its rarity. The patient presented with cough, vomiting, weight loss and respiratory distress.

Introduction
Carcinoma of the esophagus is uncommon in younger age groups¹ and extremely rare in children and adolescents, with only isolated case reports.²⁻⁴ We report a case of squamous cell carcinoma involving the esophagus with tracheo-esophageal fistula, pulmonary tuberculosis and hyperthyroidism in a 16-year-old female because of its rarity in the teenage group.

Case Report
16 year old female presented to a government hospital with complaints of cough, expectoration, decreasing weight, occasional vomiting and mild fever. After investigations (X ray chest and positive sputum smear for AFB), anti tubercular treatment (ATT) RNTCP category 1 DOTS was started. After one and a half months patient presented to our hospital with increasing symptoms of vomiting, retching, decreased appetite, weight loss, generalized weakness, cough and breathlessness. First impression was ATT induced gastritis, but meticulous history established the relationship of vomiting and cough such that cough started with intake of even water and vomiting followed. There was no history of haemoptysis, chest pain, dysphagia or hoarseness of voice. On examination patient was malnourished (24 kilograms), afebrile, pulse was 150/minute with blood pressure of 60/ mmHg systolis. Respiratory rate was 36/minute with SO₂ of 76 % on room air. Patient showed signs of dehydration, malnourishment, stomatitis, glossitis and bilateral coarse crepitations more on right side. Hemoglobin was 14.9 gm/dl, leucocytes 18400 cells/mm³ (neutrophils: 88%) and platelet count was 195 x 10⁹/L. Aterial blood gas analysis showed pH of 7.438, pC0₂ 38 mm Hg, pO₂ of 854.8 mm Hg and lactate of 2.8 mmol/L. LFT and RFT were normal. Free T4 was 2.48 ng/dl, free T3 was 2.55 ng/dl and TSH was 0.12 uIU/ ml. Sputum for AFB and viral markers were negative. X Ray chest suggested complete collapse/consolidation of entire right lung field (Figure 1). Plain computed tomography of the chest suggested complete collapse/consolidation of entire right lung field with oesophageal rupture, probable tracheo-oesophageal/ oesophageal bronchial fistula with disseminated tuberculosis (Figure 2). Upper GI endoscopy showed ulcer nodular growth oesophagus with large tracheoesophageal fistula. A metallic stent was placed in oesophagus to close the fistula (Figure 3). Histopathology report showed moderately differentiated squamous cell carcinoma. With conservative management patient improved and started taking normal diet and was discharged on request and referred to oncologist for further management.

Discussion
The mean age at diagnosis of esophageal cancer is in range of 27 - 87 years. Beyond 40 years incidence of both squamous cell and adenocarcinoma carcinoma of the esophagus rises with each decade of life.⁴ To date, only a few cases of esophageal carcinoma reported so far was an 8-year-old girl from India in 1980.⁷ Squamous-cell carcinoma is linked to lifestyle factors such as smoking and alcohol.⁸ Adenocarcinoma has been linked to effects of long-term acid reflux.⁹ Tobacco is a risk factor for both types. Both types are more common in men and in the over-60s.⁹

Common presenting symptoms of esophageal cancer include dysphagia (95%), weight loss (59%), chest pain (44%), and our patient presented with cough (12%), vomiting and breathlessness (7%) which are uncommon presenting symptoms. Association of pulmonary tuberculosis, hyperthyroidism with squamous cell carcinoma of oesophagus and tracheo-oesophageal fistula in 16 yrs old female is rare and on search of literature we could not find any similar case report.

In children, nutritional deficiencies and exposures to environmental risk factors might be responsible for making the esophageal epithelium weak and vulnerable for the development of esophageal cancer.¹⁰ The development of a malignant tracheoesophageal fistula (TEF) as a complication in this disease represents a grave prognostic sign. The reported incidence of TEF to be as high as 5-10% in patients with esophageal cancer.³ Malignant TEF have been found in connection

¹ Professor, ²Intern, Dept. of Medicine, Adesh Institute of Medical Sciences and Research, Bathinda, Punjab; ³Consultant, Dept. of Medicine; ⁴Consultant, Dept of Gastroenterology, Max Hospital, Bathinda, Punjab
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with other malignancies, such as lung cancer, tracheal cancer, and Hodgkin disease. Although the prognosis of patients with esophageal cancer with malignant TEF is extremely poor, occasionally these patients may survive for prolonged periods free of disease. The management and outcome of the disease depends on the stage of cancer and is not influenced by age.

References