

Tracheoesophageal Fistula Secondary to Carcinoma of Oesophagus: A Case Report

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Introduction

Oesophageal carcinoma is one of the rare cancers in Nigeria, probably due to non-presentation and under-reporting of such cases in the country. The reported incidence of the cancer in Nigeria is less than 0.7% of all cancers. Tracheo-oesophageal fistula is a common complication resulting from oesophageal carcinomas and often results in acute and chronic lung infections and aspiration pneumonitis. Most patients die as a result of respiratory complication rather than the disease itself. We report a case of tracheo-oesophageal fistula resulting from carcinoma of the oesophagus in Yenogoa, Bayelsa state in Nigeria.

Case report

A 72-year old retired soldier with a history of over thirty years of cigarette smoking and alcohol consumption presented with a one year history of difficulty in swallowing solid food and three months of coughing with haemoptysis. There was associated weight loss. Physical examination revealed a chronically ill looking but stable elderly male patient who was moderately pale but not in respiratory distress. His vital signs were normal. Full blood count revealed reduced haemoglobin level but other parameters were normal. Urinalysis, fasting blood sugar and electrolytes, urea and creatinine values were all within normal limits. Chest x-ray revealed bilateral basal patchy opacities in keeping with aspiration pneumonitis. The mid and upper lung zones were normal.

Barium swallow was ordered from the referring hospital, and this revealed persistent narrowing at the middle third of the oesophagus with shouldering and irregularity of the outlines, and outlining of the bronchus by contrast secondary to a fistulous connection. Chest computerized tomography showed contrast outlining the trachea and main bronchi with basal patchy densities in both lung bases. Abdominopelvic ultrasound was normal. A diagnosis of trachea-oesophageal fistula from carcinoma of the oesophagus was made. Multiple biopsies were taken from the oesophageal lesion through endoscopy. Histopathological examination of the biopsied tissue revealed squamous cell carcinoma of the oesophagus.

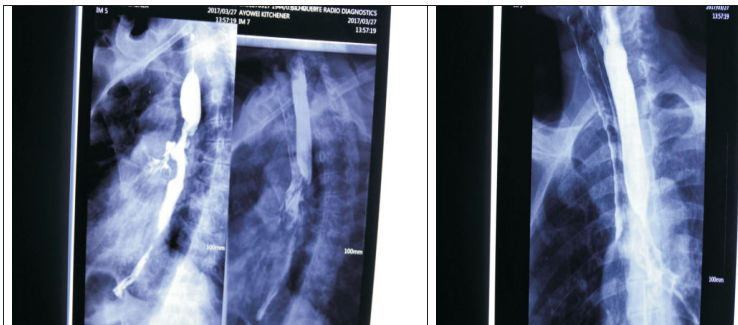


Figure 1. Barium swallow showing irregularity and shouldering of the mid esophagus. Note rat tail appearance on the AP radiograph with contrast outlining the trachea.

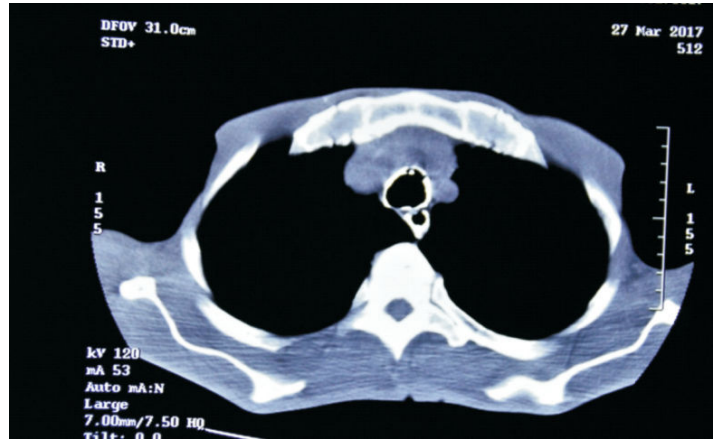


Figure 2. Chest CT scan in mediastinal window showing contrast material in the trachea and esophagus.

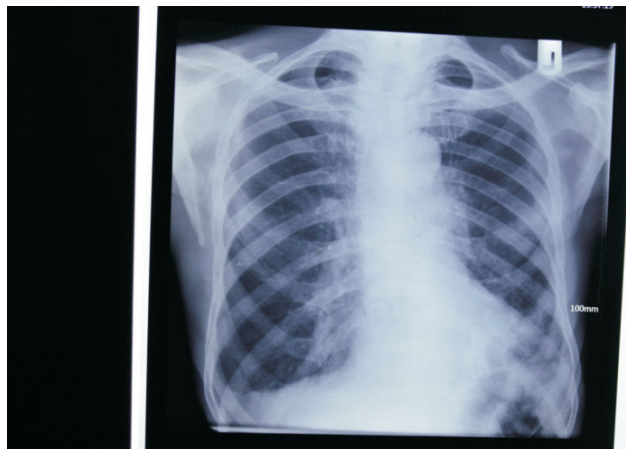


Figure 3. Chest radiograph showing patchy opacities in both lung bases worse on the left. Note flattening of the right hemidiaphragm

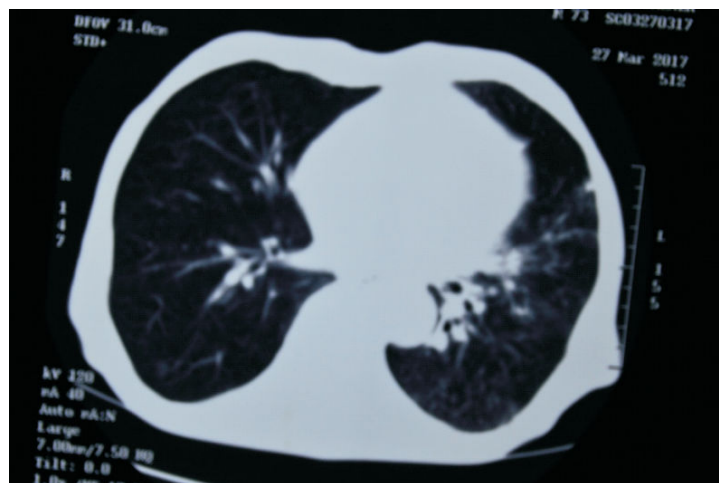


Figure 4. High resolution chest CT scan showing streaky densities in both lung bases worse on the left

Discussion

Carcinomas are known to cause complications by local spread and invasion, by distant metastasis and from metabolic effects including paraneoplastic syndrome. The trachea-oesophageal fistula in our patient was due to local spread of the tumour from the oesophagus to a contiguous structure, the trachea leading to an abnormal connection between the epithelia of both structures.

Oesophageal cancer incidence is well documented in developed countries. Data from the Office for National Statistics on Registration of cancers diagnosed in England in 2007 showed it to be the seventh most common cancer in males in England and fourteenth in females. The incidence and prevalence is not well known in developing countries where there is poor record keeping and some cases do not even present in the hospital. The male to female ratio in Nigeria according to one study is 1:1 It is an endemic disease in Transkei, a region along the Indian Ocean coast in South Africa, which is regarded as an epicenter of the disease in Africa. The two common histological types are squamous cell carcinoma and adenocarcinoma. Squamous cell carcinoma is the predominant histologic type of oesophageal cancer worldwide. Since the early 1970s, the incidence of oesophageal adenocarcinoma has increased dramatically in most Western populations. In contrast, the incidence of oesophageal squamous-cell carcinoma has decreased in these same populations. Worldwide the rates are highest in Northern China, South Africa, Turkey and Iran. More than half of all oesophageal cancer-related deaths occur in the Republic of China. Oesophageal squamous-cell carcinoma is the commonest throughout the world, and represent 87% of all oesophageal cancer cases in 2012.

Several factors are attributed to the development of oesophageal cancer (EC). Age is a non-modifiable factor for the development of this cancer. The incidence of EC increases with age being commonest in the 6th decade of life although adenocarcinoma appears to be commoner in males under the age of 40 years. Other predisposing factors include tobacco smoking, excessive alcohol consumption, low intake of fresh fruits and vegetables, poor oral health and exposure to human papilloma virus. A multi-center hospital-based case control study shows that cigarette smoking and alcohol drinking are the major factors for the development of oesophageal carcinoma in Taiwanese women. In another case-control study conducted in the United States, the odds ratio for developing oesophageal cancer in smokers were 3.1 and 2.5 for white and black males respectively. The patient in this case report had a significant history of cigarette smoking.

Some risks factors are associated with the development of certain histological types of oesophageal cancer. The two main risk factors for oesophageal adenocarcinoma are gastro-oesophageal reflux and obesity. There was no history of gastro-oesophageal reflux and obesity in this case. The risk of developing the tumour increases by a factor of 8 in patient with long-standing gastro-oesophageal reflux compared with individuals without reflux. Other risk factors that are associated with development of oesophageal cancer are abuse of non-steroidal anti-inflammatory drugs, and *Helicobacter pylori*.⁹

Carcinoma of the oesophagus carries a poor prognosis if not surgically resectable due to advanced stage at presentation. The role of health workers in prevention and early diagnosis of the disease cannot be over-emphasized. In our environment, where cutting edge technology is not readily available in the management of such patients, the prognosis is usually worse. The index patient has however signed against medical advice and left the hospital facility. The late presentation of our patient and his subsequent self-discharge against advice like many other patients in this part of the world are due to poor health seeking behavior, poverty and illiteracy. General improvement in the living standards of the people will curb this.

Conclusion

The presence of dysphagia, cough and weight loss in elderly male patients with a long history of smoking and alcohol consumption highly suggests the presence of oesophageal carcinoma. Barium swallow and endoscopy are the first line investigations and should be done promptly to clinch the diagnosis.

Consent

Written informed consent was obtained from the patient before publication of this article.

Competing interests

The authors declare that they have no competing interests.

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