Online Journal of Health and Allied Sciences
Peer Reviewed, Open Access, Free Online Journal
Published Quarterly : Mangalore, South India : ISSN 0972-5997
Volume 10, Issue 4; Oct-Dec 2011

Case Report:

Tracheal Carcinoma

Ashok K Chauhan, Senior Professor and Unit Head, Department of Radiation Oncology,
Paramjeet Kaur, Assistant Professor, Department of Radiation Oncology,
Gajender Singh, Assistant Professor Department of Pathology,
Satyvir Kishore Mathur, Senior Professor, Department of Pathology,
Pt. BDS PGIMS, Rohtak, Haryana.

Address for Correspondence:
Dr. Paramjeet Kaur,
Assistant Professor,
Department of Radiation Oncology,
Pt. BDS PGIMS,
Rohtak, Haryana, India.
E-mail: dr_paramjit_g@yahoo.co.in

Citation: Chauhan AK, Kaur P, Singh G, Mathur SK. Tracheal Carcinoma. *Online J Health Allied Scs.* 2011;10(4):10
URL: http://www.ojhas.org/issue40/2011-4-10.htm
Open Access Archives: http://cogprints.org/view/subjects/OJHAS.html and http://openmed.nic.in/view/subjects/ojhas.html

Submitted: Aug 16, 2011; Accepted: Jan 4, 2012; Published: Jan 15, 2012

Abstract: Adenoid cystic carcinoma of the trachea is a rare primary tracheal malignancy. Obstructive symptoms such as dyspnoea, hoarseness of voice, dysphasia are commonly seen symptoms. Combined modality treatments including surgery and radiation therapy are considered as optimal treatment for these tumours. A case of adenoid cystic carcinoma in a 35 years old male patient who was treated successfully by surgical excision and external beam radiation therapy is presented.

Key Words: Adenoid cystic carcinoma; Tracheal tumours; Radiotherapy..

Introduction:

Primary tracheal tumours are extremely rare, comprising approximately 0.1%-0.4% of all diagnosed malignancies.[1] The most common histology for a primary tracheal tumour is squamous cell carcinoma which constitutes 60%-90% of cases: adenoid cystic carcinoma (ACC) accounts for 20-25% of all tracheal tumours and 80% of all tracheobronchial gland tumours.[2-4] Adenoid cystic Carcinoma of trachea usually presents at a relatively younger age and affects males and females equally. We present this case due to the rarity of condition and the lack of data about definitive management, outcome survival in such cases. The present case was treated successfully with combined modality treatment comprising surgery and radiation therapy.

Case Report:

A 35 years male developed gradually increasing complaints of breathlessness and cough of 3-4 year duration, but he did not seek any medical assistance until stridor developed.

There was no history of dysphagia, or of pain in the neck or elsewhere. General physical examination was unremarkable. On examination of the respiratory system, the upper airways were normal. On auscultation the patient had wheeze. Abdomen examination was normal. The hematological and biochemical profiles were normal. The chest radiograph was normal. Fiberoptic bronchoscopic examination showed a growth in the trachea at the level of the manubrium sterni on right side and the growth was seen projecting into the tracheal lumen and obstructing it by more than half. The patient underwent resection of the growth and of the trachea. At operation a 3x3 cm intraluminal growth was seen in trachea, infiltrating into pretracheal tissue. Histopathological examination showed an adenoid cystic carcinoma invading the tracheal wall and paratracheal tissue. [Fig 1, 2] The distal and proximal margins were found to have tumour infiltration microscopically. The CT scans of the chest and abdomen, the radionuclide bone scan and the serum alkaline phosphatase estimation were performed to rule out extra thoracic metastases.

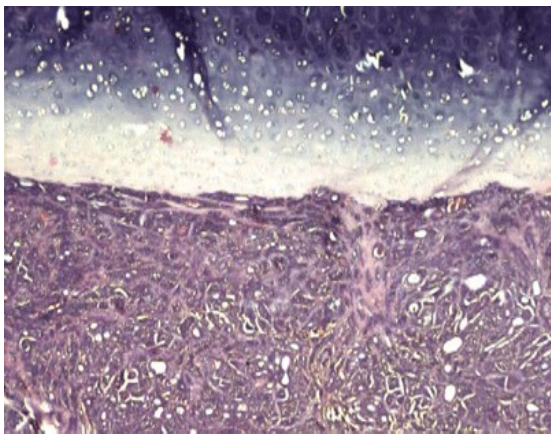

Fig 1: Photomicrograph showing tumor cells forming cribriform pattern with overlying normal endotracheal mucosa. H&E 100X

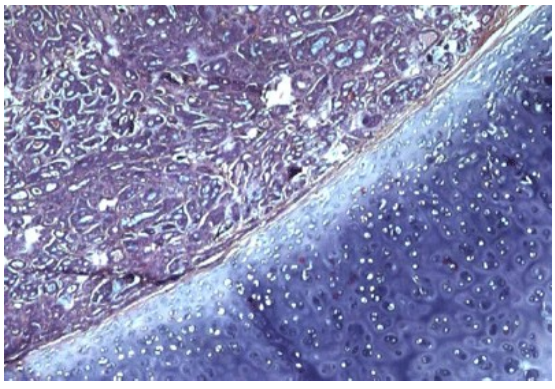

Fig 2: Photomicrograph showing tumor cells infiltrating underlying stroma. H&E 100x

Radiotherapy using anterior and posterior portals was applied to the lower neck and chest and delivered in a dose of 45 Gy in 25 fractions with the intention of preventing local recurrence of the disease.

The Patient completed the treatment, and since then has been on regular follow up with no evidence of disease recurrence after one and half years of treatment.

Discussion:

Billroth in 1859 first reported the clinical and pathologic features of adenoid cystic carcinoma of the trachea.[5] Adenoid cystic carcinoma of the trachea most frequently originates in the trachea or main stem of bronchi, producing obstructive and associated symptoms like wheezing, progressive dyspnoea, stridor and cough. Surgical intervention is the initial strategy for primary tracheal tumours, in the form of complete resection of the tumour is the mainstay of treatment [6] complete resection is defined as no remaining gross, palpable, or microscopic tumours.[7]

Review of the literature showed five year survival ranging from 66% to 100% and 10 year survival ranging from 51%-62% for these tumour regardless of the treatment.[8,9]

Radiation therapy is usually recommended as adjuvant setting. The dose of radiation depends upon the bulk of the tumour. Results from reported series showed resection plus adjuvant radiation had better outcomes.[10] The role of chemotherapy in AC is undefined.

In conclusion, adenoid cystic carcinoma of trachea is a rare primary tracheal malignancy, with obstructive symptoms such as dyspnoea, hoarseness of voice, and dysphasia being the commonly seen symptoms. Combined modality treatments including surgery and radiation therapy are optimal treatment for these tumours.

References:

1. Housten HE, Payne WS, Harrison EG, et al. Primary cancers of trachea. *Arch Surg* 1969; 99(2):132-140.
2. Travis WD, Travis LB, Devesa SS. Lung cancer. *Cancer* 1995; 75:191-202.
3. Licht PB, Friis S, Pettersson G. Tracheal Cancer in Denmark: a nationwide study. *Eur J Cardiothorac Surg* 2001;19(3):339-345.
4. Hammar SP. Common neoplasms in: Dail DH, Hammar SP, ed Pulmonary Pathology. New York: Springer – Verlag; 1994. pp1123-78.
5. Billroth T. Beobachtungen über geschwülsteder Speicheldrüsen. *Virchows Arch Pathol Anat* 1859;17:357-375.
6. Azar T, Abdulkarim FW, Tucker HM. Adenoid cystic carcinoma of trachea. *Laryngoscope.* 1998;108:1297-1300.
7. Regnard JF, Fourquier P, Levasseur P. Results and prognostic factors in resection of primary tracheal tumors : a multicentre retrospective study. *J Thorac Cardiovasc Surg* 1996;111:808-814.
8. Maziak DE, Todd TRJ, Keshavjee SH, et al. Adenoid cystic carcinoma of the airway: thirty two year experience. *J Thorac Cardiovas Surg* 1996;112:1522-1532.
9. Grill HC. Management of Tracheal tumors. *Am J Surg* 1982;143:697-699.
10. Chow DC, Komaki R, Libshitz HI, et al. Treatment of primary neoplasms of the trachea. The role of radiation therapy. *Cancer* 1993;71(10):2946-2952.