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A RARE CASE OF LARYNGEAL CHONDROSARCOMA

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PATIENT'S DETAILS

Name : Confidential | Reg. No : Confidential | Age : 82yrs

Pre Medical History : Hypertension, Anxiety disorder | Smoking Habit : smoker | Allergies : nil

SUMMARY

82 year old chinese male presented with a 10 month history of sore throat associated with hoarseness and increasing shortness of breath over 4 months.

After 2 Computed Tomography scans and 3 biopsies for Histopathological examination, the diagnosis of Chondrosarcoma of Larynx was made.

He underwent total laryngectomy with total thyroidectomy.

Key words: Laryngeal carcinoma, Cartilaginous tumors, Chondrosarcoma, Total Laryngectomy

INTRODUCTION

Chondrosarcomas are uncommon malignant neoplasms of the cartilage that occur anywhere in the body but are most commonly seen in the long bones and pelvis.

Chondrosarcomas of the larynx are rare (0.1-0.2% of all laryngeal tumours), however, one fifth of these (20%) are malignant (*Neis 1987*). Although chondrosarcomas of the larynx are rare, they are of great clinical relevance as their management is largely different from other malignancies of the larynx (*Sauter et. at. 2007*).

Here we present a case of late Chondrosarcoma of the Larynx which underwent Total Laryngectomy.

CASE

The patient was an 82 year old chinese male who presented to us with a 10 month history of sore throat associated with hoarseness.

He also had a 4 month history of increasing shortness of breath which culminated in an acute episode of gasping. This resulted in a tracheostomy with direct laryngoscopy and biopsy being performed under general anaesthesia.

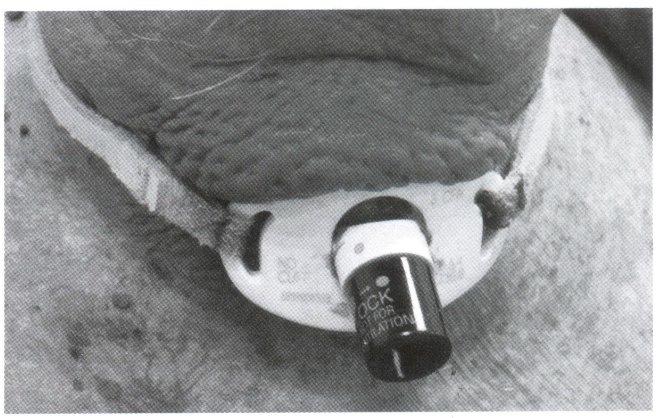


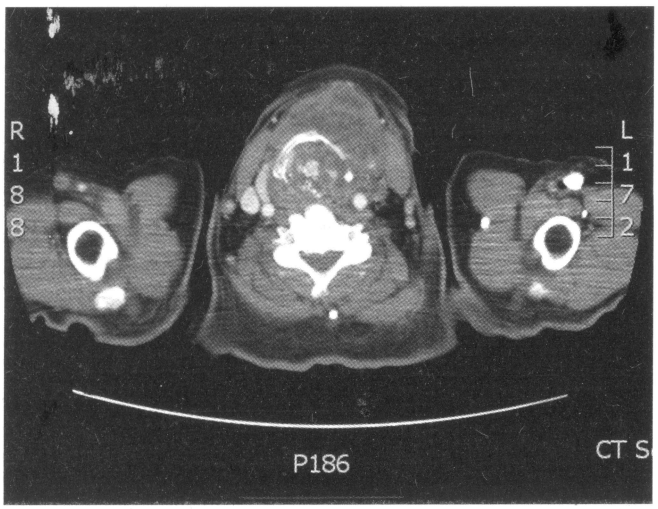
Figure 1. Patients neck as seen on presentation (Sept 2011)

Histopathological Examination May 2011: chronic inflammation

CT scan May 2011: narrowing of airway, tumour less than 2cm in larynx.

However the patient developed increasing swelling in anterior neck and increasing dysphagia to solids.

CT Scan Sept 2011: tumour size increased to more than 7cm, compressing oesophagus, eroding the thyroid cartilage with tumour infiltrating both thyroid lobes and involving the retropharyngeal area. A right upper lobe lung nodule was also noted.



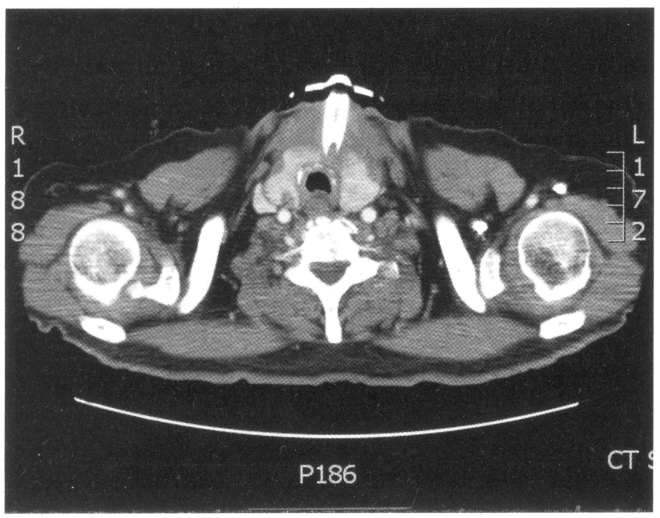


Figure 2. CT scan images showing tumour (Sept 2011)

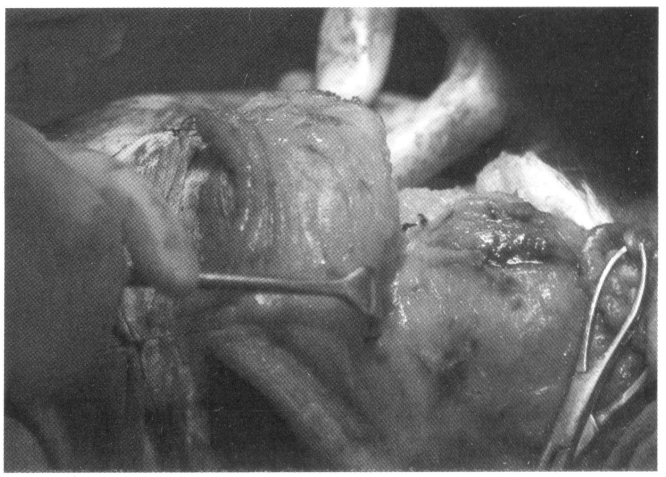


Figure 3. Intra-operative image of tumour

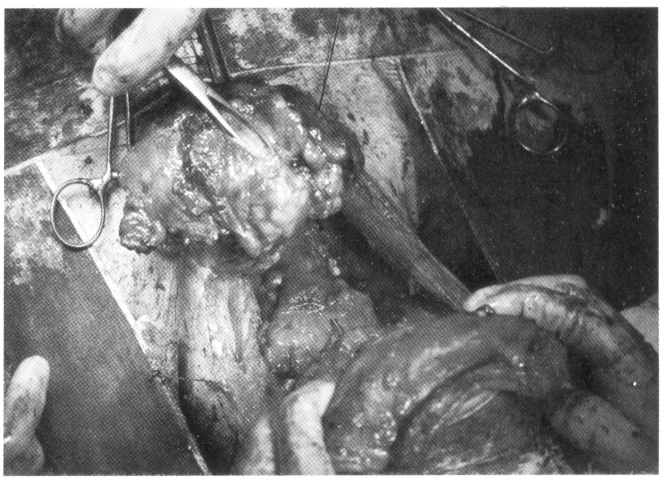


Figure 4. Delivery of total laryngectomy specimen

HPE Sept 2011: squamous papilloma with dysplasia/chondrosarcoma

Considering that chondrosarcoma is not amenable to radiotherapy or chemotherapy and surgery being the only viable option, the patient underwent total laryngectomy and thyroidectomy.

Nasogastric tube was inserted intra-operatively and feeding only started after 3 days.

The post-operative period was uneventful. Patient was given intravenous antibiotics for 3 days and 3 doses of intravenous dexamethasone. A Barium swallow carried out on Day 14 showed no evidence of a leak therefore no formation of tracheo-oesophageal fistula.

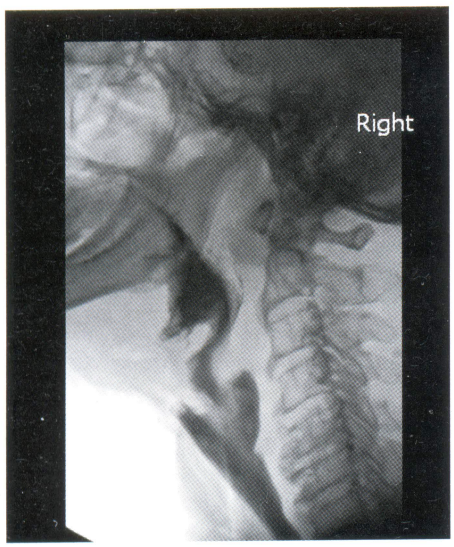


Figure 5. Barium Swallow image

Patient was discharged on Day 15 post-operaion and will be followed up closely in our clinic.

DISCUSSION

Laryngeal chondrosarcomas are rare entities, first described in 1935 by New and can be frequently misdiagnosed or underdiagnosed.

Unlike in other head and neck sites, laryngeal chondosarcomas are considered low grade in both histology and clinical aggressiveness (*Munoz et. al. 1990*).

Chondrosarcomas usually arise at sites of hyaline cartilage that correspond to the areas of laryngeal muscle insertion Neis *et. al.* 1989. The cricoid cartilage is the site of origin in 75% of laryngeal chondrosarcomas (mainly posterior lamina) (*Brandwein et. al. 1992*). In 20% of cases it arises from the thyroid cartilage.

Chondrosarcomas may also originate from the arytenoid, epiglottic or corniculate cartilages and from the true vocal cord (*Munoz et. al. 1990*).

Chondrosarcomas are submucosal, and approximately 50% of patients will have unilateral vocal cord paralysis at presentation (*Erdinc et. al. 2003*).

The peak incidence of laryngeal chondrosarcomas is in the 5th to 8th decades[3] coinciding with maximal cartilage ossification[5]. The male to female sex incidence is 3:1 to 4:1 (*Neis et. al. 1989*).

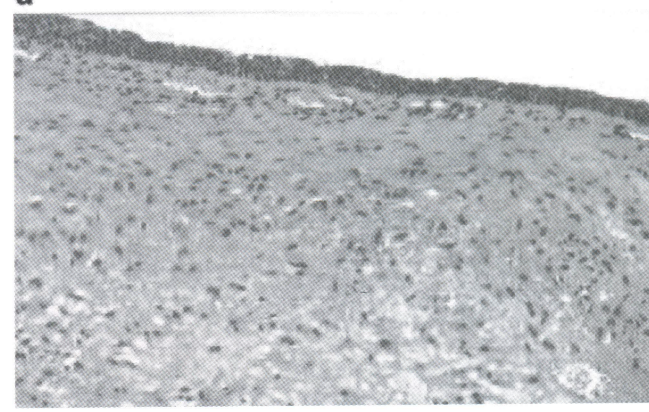
Clinical presentation is usually with non-specific symptoms like hoarseness, sore throat, dyspnoea and occasionally dysphagia (*Neis et. al., 1989, Munoz et. al. 1990*). Airway obstruction may be acute, necessitating emergency tracheostomy but this situation rarely arises due to slow growth of tumour.

Vocal cord immobility rarely occurs but may be due to the fixation of the cricoarytenoid joint. It may also present as an external neck mass (*Erdinc et. al. 2003*). Chondrosarcomas tend to remain localized in the larynx during their clinical course.

Diagnosis is based on laryngoscopy and radiologic examinations. CT scan provides very good imaging of chondrosarcomas, and is useful in the initial evaluation of the tumor, the surgical planning and the early detection of recurrence during follow-up. Some authors have concluded that mottled calcification and trabeculation are pathognomonic for cartilaginous tumors (*Sauter et. al. 2007*). Magnetic resonance imaging provides the added advantage of superior contrast resolution of the tumor and paralaryngeal tissues.

Histopathological examination of biopsy specimens show the features below:-

a



b

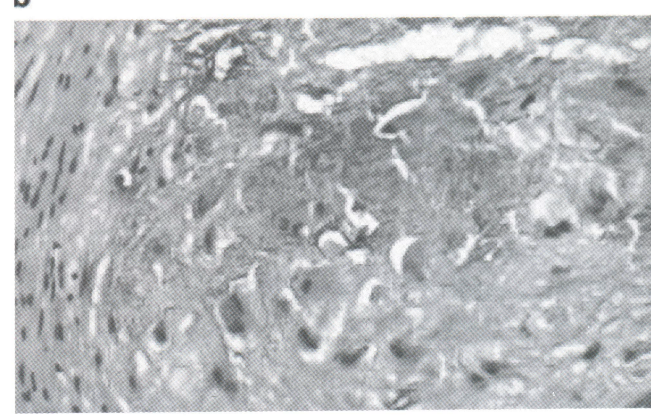


Figure 6. Low-grade chondrosarcoma arising from

cricoid cartilage5

(a) The tumour has a multilobular growth pattern and cords of eosinophilic cells are deposited within the abundant myxoid matrix

(b) Partially, aggregates of tumour cells with fibroblastic features are evident within the epitheloid strands.

In early cases of chondrosarcoma of larynx, conservative surgery is the treatment of choice. The majority of the cases in the literature received a conservative laryngeal function-preserving surgical treatment determined by the localization of the primary neoplasm. While radical removal is the aim, the margin of safe excision is difficult to determine, especially in function-preserving resections. Endoscopic removal, laryngofissure, thyrotomy or partial laryngectomy have been described in order to achieve an excision with a sufficient margin of normal, uninvolved cartilage.

However, in our case, due to the advanced stage and extent of disease, total laryngectomy was carried out as salvage surgery.

References

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