CASE STUDY

Acute Tuberculous Abscess of the Larynx – An Unusual Presentation

Absceso tuberculoso agudo de la laringe: una presentación inusual

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Received 18 June 2014; accepted 30 July 2014

Clinical Case

A 26-year-old young male presented in our ENT OPD with chief complaints of a painful swelling on left side of the neck over the thyroid region for one week. He had no symptoms of dysphagia, hoarseness of voice or cough and no constitutional symptoms of fever, weight loss or loss of appetite. There was no history of contact with tuberculosis patient. On examination he was conscious, well-built and afebrile. There was a small ill-defined, tender indurated area around 1 cm × 1 cm over left side of thyroid region with hyperemic overlying skin (Fig. 1). The patient had already taken a course of antibiotics prescribed by a private practitioner but there was no relief. His indirect laryngoscopic examination was normal. There was no cervical lymphadenopathy. FNAC of the swelling was done which was suggestive of sub-acute thyroiditis. His hematological and biochemical investigations were normal except mildly raised T3 (7.75 pg/ml). He had negative serology for HIV. He was treated with oral steroids and oral antibiotics in view of subacute thyroiditis and called for follow up.

He returned after 7 days with an abscess over the left side thyroid region. It was around 4 cm × 3.5 cm in size, fluctuant and tender on palpation. Ultrasonography of the neck showed a well-defined superficial collection in neck around 3.5 cm × 1.5 cm × 2.5 cm with a volume of 6 cm³ suggestive of neck abscess with normal thyroid gland. Around 6 ml of pus was aspirated from the swelling and sent for pus and culture sensitivity. He was admitted and the treatment started with...
intravenous amoxiclavulanic acid, gentamicin and metronidazole. However, there was no response even after 48 h of antibiotics. He also developed hoarseness of voice and dysphagia on third day of admission. CECT scan of the neck was done which revealed an infiltrating mass destroying the left lamina of thyroid cartilage, strap muscles reaching up to the subcutaneous plane with asymmetrical thickening of left vocal cord suggestive of a malignant process (Fig. 2a). There was an irregular soft tissue mass lesion also seen in the right apex lung suggestive of infective or neoplastic pathology (Fig. 2b). Fiberoptic examination of larynx revealed minimal congestion and edema of left true vocal cord. Rest of the laryngeal examination was unremarkable. Chest X-ray revealed an inhomogenous patch of haziness in right apex of lung. Sputum examination was negative for AFB. Incision and drainage of abscess were done and necrosis of the thyroid cartilage was noted. Biopsy of the larynx was taken through the necrosed cartilage. Histopathological examination of the biopsy specimen revealed epitheloid cell granulomas with chronic inflammatory cells with caseous necrosis.

On basis of radiological and histopathological examination he was diagnosed as laryngeal tuberculosis (LT) with pulmonary involvement. Standard antitubercular treatment for 6 months was started. The swelling disappeared in two weeks but the hoarseness continued up to for 2 months.

**Discussion**

LT is the most common granulomatous disease of the larynx and has usually been considered to result from pulmonary tuberculosis, although it might be localized in the larynx as a primary lesion without pulmonary involvement. Its diagnosis may be difficult especially in patients without symptoms of pulmonary tuberculosis. In the present case the patient had pulmonary disease and laryngeal involvement was probably secondary to it by haematogenous spread. In the past, LT typically affected young people in the second or third decade of life with advanced pulmonary tuberculosis. Symptoms were cough, fever, haemoptysis, weight loss and night sweats. An ulcerative granulomatous lesion was generally caused in bedridden patients on the posterior part of the larynx due to accumulation of sputum in the arytenoids region. Today LT mainly involves people in their 50s or 60s presenting primarily with hoarseness (80%–90%), odynophagia (50%–67%) and to a lesser extent dysphagia, dyspnoea, stridor cough and haemoptysis. It can manifest as edema, hyperemia or ulcerative lesions in the larynx but can also present as a nodule, an exophytic mass or diffuse obliteration of an anatomical structure.

Laryngeal carcinoma is the main differential diagnosis apart from sarcoidosis, syphilis, leprosy, lethal midline
granuloma, fungal diseases and chronic nonspecific laryngitis. Characteristic CT findings of LT include bilateral involvement, thickening of the free margin of the epiglottis, good preservation of the pre-epiglottic and paralaryngeal fat spaces, and the primary integrity of the laryngeal structure is maintained even in the presence of extensive mucosal involvement, i.e. on CT scans cartilage destruction is not usually seen in LT. By comparison laryngeal carcinoma presents with unilateral involvement, infiltration of the pre-epiglottic and paralaryngeal fat spaces by a submucosal mass, cartilage destruction, and extralaryngeal invasion. Kenmochi et al reported a case of LT involving the right wing of thyroid cartilage combined with whole-bone metastasis that included the cervical spine and the thoracic spines. In the present case there was dilemma as the patient had no laryngeal symptoms and so it was initially treated as a neck abscess. Based on CT findings showing unilateral involvement with cartilage destruction it was suspected to be laryngeal malignancy but the diagnosis of LT was confirmed on histopathological examination and the patient response to antitubercular therapy with improvement in hoarseness of voice within two months.

Conclusion

- LT should be considered in the differential diagnosis of a neck abscess and of various head and neck pathologies especially in endemic regions of the world.
- If misdiagnosed, LT can have severe consequences for the patient and anyone who comes in contact with. So it is important for otolaryngologists to keep in mind the varied pattern of presentation of LT and to be familiar with its resemblance to malignancy.

Conflict of Interest

No conflict of interests.

References