

An Unusually Large Symptomatic Paratracheal Air Cyst

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ABSTRACT

Paratracheal cysts, usually incidental findings on imaging for other reasons, rarely cause symptoms so as to necessitate treatment. Such a large paratracheal cyst indenting on the apex of the lung is barely reported in the literature.

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CASE REPORT

A 58-year-old singer and teacher. Presented in April 2011 with slowly increasing swelling on the right side of the neck since last 5 to 6 years. He also complained of a vague discomfort in the neck and a feeling of choking. There was a questionable increase in the size of the swelling on coughing or straining. There were no other upper aerodigestive tract symptoms. No history of trauma.

On examination, he had no stridor or any other features of respiratory distress. The whole of the right side of the neck was occupied by a large swelling significantly shifting the laryngotracheal apparatus to the left side. Neck veins were not prominent. The swelling slightly increased in size on coughing. Left carotid pulsation could not be felt at all while the right one could be felt with difficulty. A computed tomographic (CT) scan of the neck, already done in June 2010 showed a large air pocket (97 mm in craniocaudal direction) extending into both anterior and posterior triangles (Fig. 1). A thin communication with tracheal wall was visible. The air pocket was also extending into the thoracic inlet with indentation of the apex of right lung. Air fluid level was seen in the dependent part (due to inspissated mucus). The air pocket was seen to increase with Valsalva maneuver on imaging. A chest X-ray and an X-ray neck revealed similar findings. Since, we already had a diagnosis of a paratracheal air cyst, a needle was introduced into the swelling and connected to an underwater seal system—a large amount of air and some mucopurulent material came out and the swelling significantly reduced in size.

A magnetic resonance imaging (MRI) of the neck in April 2011 reported a well-defined cystic SOL with air fluid level in the right side of the neck extending into the superior mediastinum. The lesion was displacing the larynx and trachea significantly to the left side.

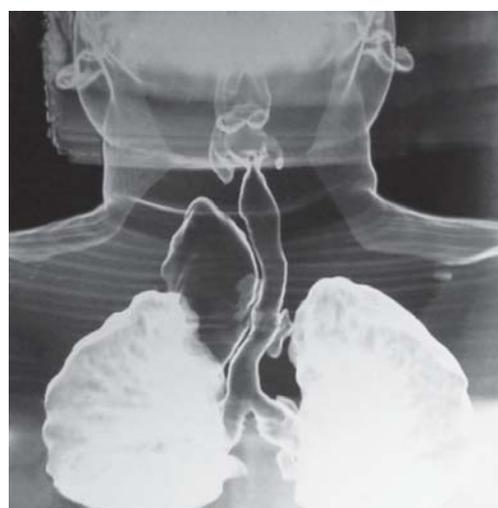


Fig. 1: CT scan showing relation of cyst with tracheobronchial apparatus

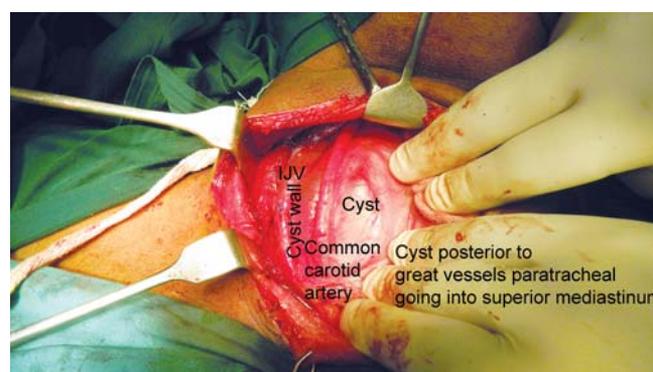


Fig. 2: Intraoperative photograph showing relation of cyst with carotid sheath

Patient did not opt for further management immediately, possibly because the symptoms had abated and the size of the swelling had decreased after puncture. He again reported in October 2011. According to him, after the puncture, the swelling regained its original size within a few days. His previous symptoms were persistent with significant discomfort. Clinical examination findings were nearly the same. Indirect laryngoscopy was normal. Fiberoptic bronchoscopy showed a diffuse extrinsic bulge almost along the whole length on the right lateral wall of trachea. He underwent surgical exploration with a collar crease incision over the neck extending from one sternocleidomastoid to the other. A huge cystic swelling, almost 20 to 22 cm in vertical extent was occupying nearly the whole of the right neck (Fig. 2). The swelling was posterior to the carotid vessels and the internal jugular vein significantly stretching these structures anteriorly and extended from the upper neck



Fig. 3: Specimen

almost to the thoracic inlet. The contents of the carotid sheath were dissected and retracted laterally. Because of the long duration of the cyst, there were adhesions all around the cyst which could be dissected with difficulty. Medially, there were multiple, thin fibrous strands in the tracheoesophageal groove making it impossible to identify and delineate the right recurrent laryngeal nerve unequivocally from the bands. During dissection, the cyst got inadvertently punctured and collapsed releasing a large amount of air and some whitish mucoid material. The cyst was significantly adhered to the pleura of the apex of the right lung which was injured during surgery and was successfully repaired. The cyst was ultimately removed successfully (Fig. 3).

The size of the collapsed cyst wall was $12 \times 5 \times 5$ cm. Microscopically, the cyst wall contained respiratory epithelium with fibrovascular tissue and lymphoid tissue. There was no visible smooth muscle and cartilage. Postoperative period was uneventful. Indirect laryngoscopy in the postoperative period revealed right vocal cord palsy. Though there was palsy of the right vocal cord, the change in the voice was slight as the opposite cord was compensating and coming near the ipsilateral cord. Two months after surgery, the patient's voice is still slightly hoarse as heard over phone, though he says, the hoarseness is improving gradually.

DISCUSSION

Paratracheal air cysts are incidental findings in about 3.7% of the routine CT examinations of the cervical spine and

neck¹ done for other indications. Usually asymptomatic, and therefore managed conservatively, the upper limit of the size reported till date in the literature is about 3 to 5 cm. Almost invariably, most of the cysts are located on the right side of the neck, at the level of the thoracic inlet, possibly because of the presence of esophagus on the left side. Such a large paratracheal cyst so as to cause significant symptoms is rare as searched in the literature.

Paratracheal cysts may also be associated with pneumothorax, pneumomediastinum or subcutaneous emphysema (usually traumatic), or emphysematous changes in the lung apices. The cysts may be unilocular or multilocular and a communication with the trachea (single or even multiple) may often be visible. Goo et al² reported in 1999 about an association of paratracheal cysts with obstructive lung disease, though such a finding has not been confirmed by other investigators. Two variants of paratracheal cysts have been reported in the literature—congenital and acquired. In the congenital variants, the cyst wall contains all the structures present in the normal tracheal wall including cartilage and smooth muscles, whereas in the acquired variants, tracheal cartilage is notably absent.

REFERENCES

1. Buterbaugh JE, Erly WK. Paratracheal air cysts: A common finding on routine CT examinations of the cervical spine and neck. That may mimic pneumomediastinum in patients with traumatic injuries. *Am J Neuradiol* 2008 Jun-Jul;29:1218-21.
2. Goo JM, Im JG, Ahn JM, et al. Right paratracheal air cysts in the thoracic inlet: Clinical and radiologic significance. *AJR Am J Roentgenol* 1999;173:65-70.

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