A case of Adenoid Cystic Carcinoma of Trachea diagnosed by Endobronchial Ultrasound guided Transbronchial Needle Aspiration (EBUS-TBNA)

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CLINICAL PRESENTATION

An 18-year-old female presented with tracheal collapse and obstruction. A large circumscribed mass of the proximal trachea extending from sternal notch to tracheal bifurcation was identified on Computer Tomography (CT) scans.

CYTOLOGICAL FINDINGS

The smears made at EBUS-TBNA procedure were highly cellular and showed cellular tissue fragments with spherical hyaline globules of stroma with adherent tumour cells (Fig 1). There were many multilayered cellular clusters with epithelial cells showing high nuclear:cytoplasmic ratio, oval hyperchromatic nuclei with coarse chromatin, and scanty cytoplasm (Fig 2). Some cribriform structures and beaded strands of stromal material with adhering cells were also noted. The nuclei of abluminal cells were highlighted with p63 stain (Fig 3); and in contrast, the luminal cells were highlighted with CD117 stain (Fig 4). The cytomorphological features were consistent with Adenoid cystic carcinoma (ACC) of the trachea. A subsequent tracheal biopsy showed groups of simple and more complex tubules set in fibrous stroma and the tubules had an inner layer of cells with eosinophilic cytoplasm and an outer layer of basaloid cells confirming the cytological diagnosis of ACC (Fig 5).

DISCUSSION

Adenoid cystic Carcinoma (ACC) arising in the trachea is a rare, low-grade malignant tumour and represents about 1% of all respiratory tract cancers. Tracheal adenoid cystic carcinoma usually presents in the 5th or 6th decade without any sex predilection [1]. In this instance the patient was younger at age 18 and did not present with usual symptoms of dyspnea, or cough. ACC commonly arises at the distal one third of the trachea and involvement of the proximal trachea and larynx are rare [2]. In spite of being in a rare location, this case showed characteristic features of ACC on cytology which was confirmed on biopsy.

**References**
