

# Nodular Fasciitis Presenting with Life-Threatening tracheal obstruction in a child

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## Case Report

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# Abstract

Nodular fasciitis (NF) is a rare non-neoplastic inflammatory tumor and usually presents as a painless, rapidly growing subcutaneous soft tissue mass. The head and neck are relatively common locations for nodular fasciitis, particularly in children. NF in the trachea is a rare and may be a fatal condition, especially with its rapidly growing nature that could cause life-threatening tracheal obstruction. We report the case of a child with NF in the trachea with nearly total tracheal obstruction. Bronchoscopy and biopsy were proved the diagnosis, and the bronchoscopic excision of the whole tumor was performed.

## Case Report

We report the case of a 5-year-old male child referred to our emergency department with severe respiratory distress symptoms. The child was suffered from respiratory infection symptoms over four months and misdiagnosed as pneumonia and admitted to the pediatric Department three times. In each time, the mother of the child confirmed that he had not inhaled any foreign body.

A computed tomography scan was performed to exclude a radiolucent foreign body inhalation. It showed a space-occupying lesion in the trachea 3.2cm above the bifurcation measuring 4x1.6cm with a pneumonic patch in the right lower lobe (Fig .1).

The patient referred to our cardiothoracic surgery department and prepared for urgent bronchoscopy. It revealed a soft tissue mass in the trachea with a subtotal obstruction just above the carina. The mass is a white colour, bleeds very easily, and obstruct nearly the whole width of the trachea with a very small opening that the air passed through it to the lungs. As a result of bleeding, a complete tracheal obstruction occurred, and the patient saturation was getting lower, then the patient was arrested for one minute. The bleeding was controlled, and a piece of tumor was excised for histopathological examination. The patient transferred to the ICU, and the steroid therapy was administered. The mass tissue sample was examined microscopically and revealed fibroblastic spindle cells arranged in a fascicular pattern with scattered inflammatory cells, no malignancy in the studied section (Fig .2). The tumor was excised bronchoscopically.

## Discussion

NF is a benign soft tissue inflammatory tumor composed of fibroblastic cells and myofibroblastic proliferation. It is also known as subcutaneous pseudosarcomatous Fibromatosis [1]. The aetiology is still unclear, but it is thought to happen because of unusual myofibroblast proliferation which preceded by an inflammatory process, infection or local injury [2]. The primary involvement of trachea with inflammatory myofibroblastic tumor (IMT) is sporadic, Gaissert et al.; reported 34 cases of uncommon primary benign tracheal tumor between 1962 and 2002 and reported only one case with IMT [3]. Complete surgical resection was not feasible, so the endoscopic resection was performed. Fabre et al.;

reported the high recurrence rate of pulmonary inflammatory pseudotumors that ranged from 18% to 40% and concluded that the complete surgical resection had excellent long term results [4].

Recent biological treatment utilizing protein kinase inhibitor of ALK protein, such as Crizotinib, have shown an impressive response rate, particularly in patients with positive ALK that show only 10% response with traditional chemotherapy [5]. In conclusion, NF is a rare airway tumor, particularly in children and may be presenting with pneumonia-like symptoms. Early detection of the lesion is essential to avoid life-threatening airway obstruction. In addition, the complete surgical resection is the gold standard of treatment if feasible.

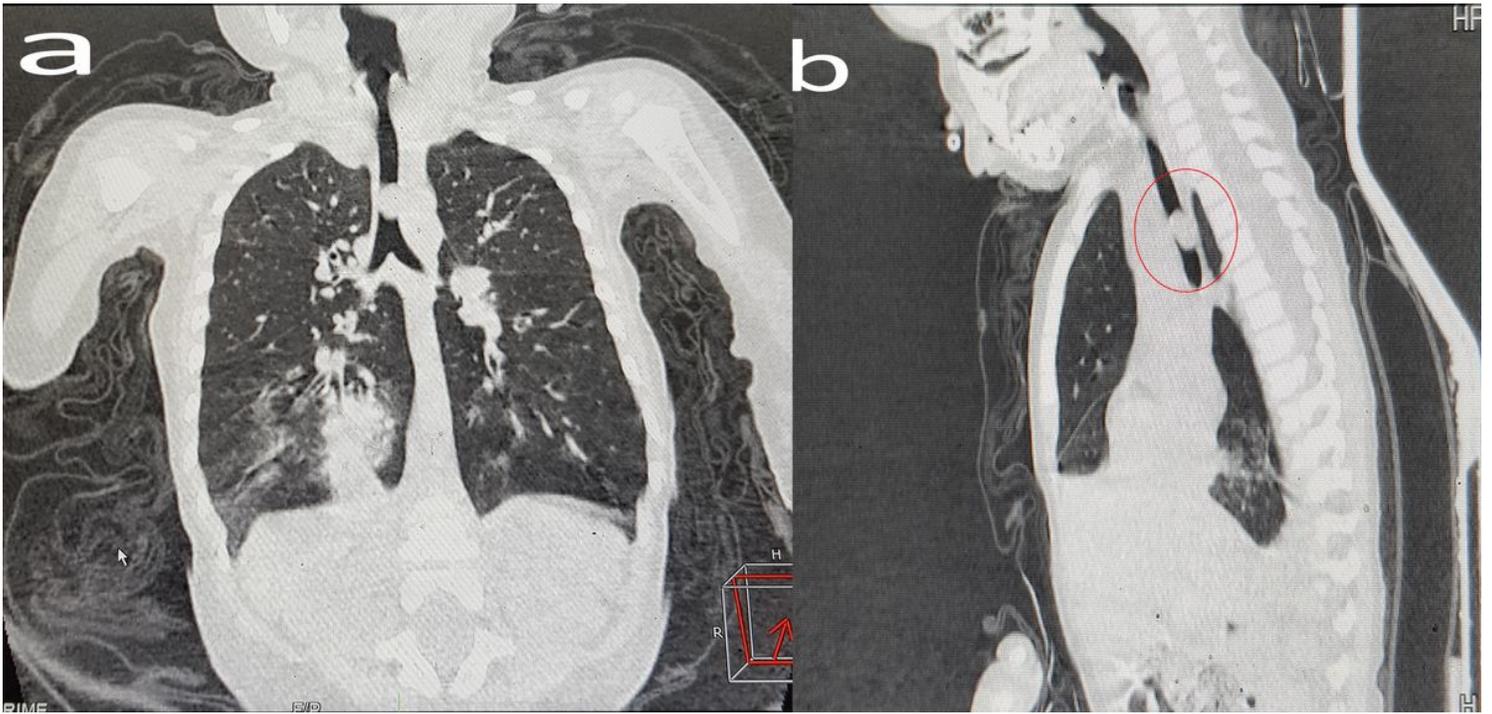
## Declarations

**Conflict of interest.** The authors have no conflicts of interest to disclose.

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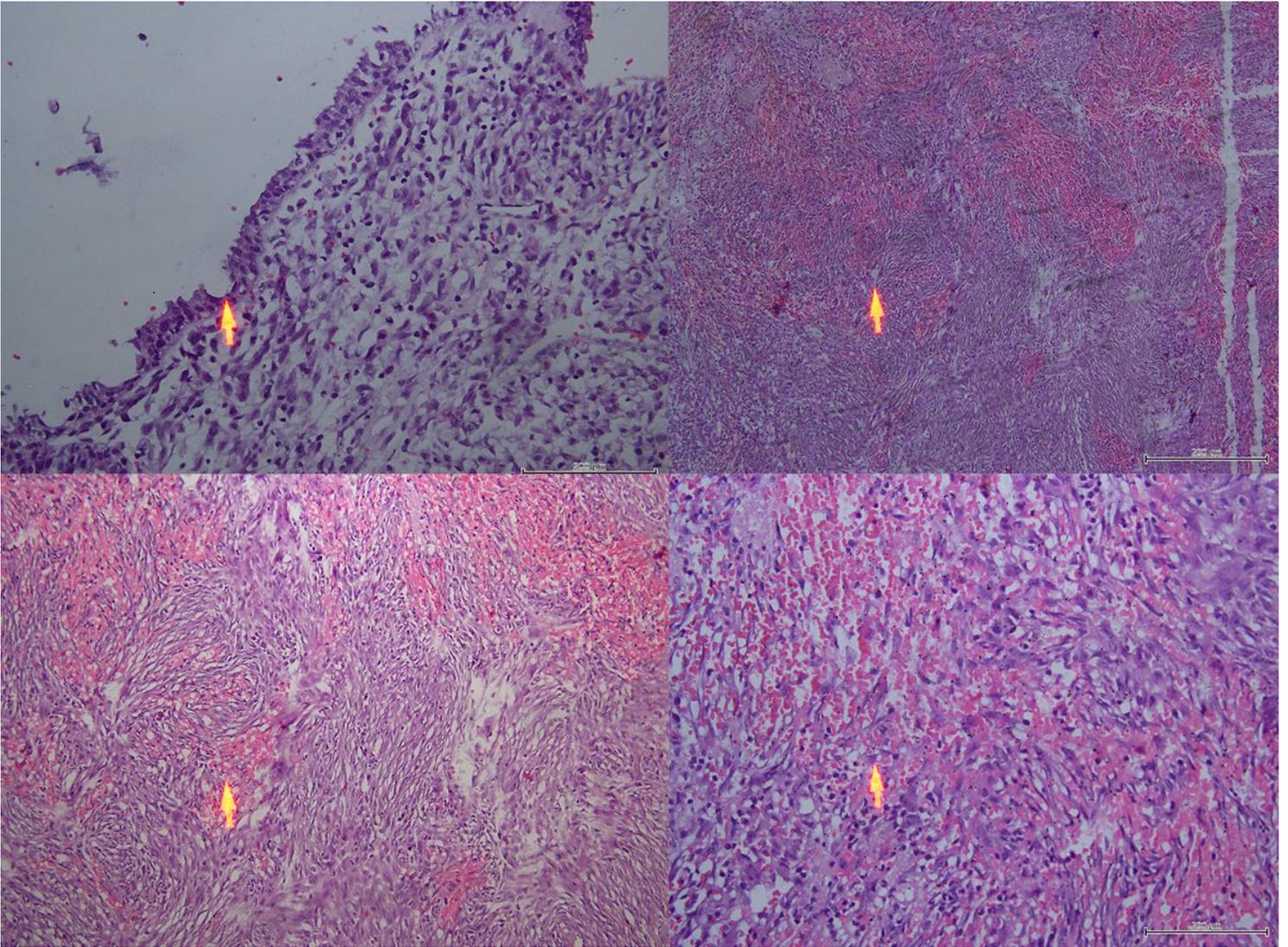
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## Figures



**Figure 1**

Computed tomography scan showing space-occupying lesion in the trachea with a pneumonic patch in the right lower lobe. a. coronal view b. sagittal view.



**Figure 2**

Cross-section of soft tissue mass sample with different power of magnifications fibroblastic spindle cells arranged in a fascicular pattern.