



Case 9087

Retropharyngeal nodular fasciitis

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Patient: 10 year(s), female

Clinical History

A 10-year-old female patient presented with roncopathy, obstructive sleep apnoea and a right lateral cervical mass, which had enlarged progressively in the past four months. The patient denied pain, voice changes or dysphagia. Physical examination revealed the mass to be elastic, smooth-surfaced and mobile. No neurologic deficits were found.

Imaging Findings

A lateral cervical spine X-ray was performed, which depicted a retropharyngeal/prevertebral mass regularly displacing the hypopharyngeal, laryngeal and upper tracheal air column anteriorly. It showed no calcifications. The cervical spine was rectified but there were no bone erosions which might suggest vertebral body involvement.

A cervical MR was performed later on. The oval-shaped solid mass was homogeneous and showed high SI on T2WI and intermediate SI on T1WI. It displaced the pre-vertebral muscles posteriorly and the hypopharynx and larynx anteriorly, suggesting a retropharyngeal origin. The oesophagus was displaced laterally to the left by the caudal portion of the mass. No clear signs of invasion of these structures were observed. There were no signs of invasion of the prevertebral muscles or cervical spine either.

No signal loss was observed on the fat-suppressed images, excluding the presence of macroscopic fat. After IV contrast administration, the lesion enhanced homogeneously.

Discussion

Retropharyngeal lesions may be congenital, such as haemangioma and lymphangioma; inflammatory, either due to direct trauma (such as foreign body penetration) or due to extension of an inflammatory process from adjacent compartments (such as the pharyngeal mucosal space); and neoplastic, nodal metastases, particularly from squamous-cell carcinoma, and lymphoma being most common.

Benign fibrous soft tissue tumours are not usually included in the differential diagnosis of retropharyngeal lesions. They can be grouped in four broad categories: benign fibrous proliferations, fibromatosis, fibrosarcomas and fibrous proliferations of infancy and childhood.[1] Nodular fasciitis is included in the first group (benign fibrous proliferations) along with other well known entities, such as fibromas of the tendon sheath, keloids and hypertrophic scars, and elastofibromas.[1] It consists of a benign, tumour-like proliferation of fibroblasts [2, 3] and myofibroblasts [1], and may be mistaken for a sarcomatous lesion due to its rapid growth [1, 3] and pseudosarcomatous histologic features, namely high celullarity and increased mitotic activity.[3] Its pathogenesis is unknown. Some speculate that it might be reactive to trauma [1, 3], while others described chromosomal abnormalities that suggest a true neoplastic origin.[1]

Nodular fasciitis usually occurs between 20 and 40 years.[1, 3] Fewer than 20% of lesions occur before 20 years.[3] Both sexes are affected equally.[3] It usually presents as a subcutaneous (most frequent), intramuscular or fascial, solitary [3], rapidly growing mass.[1] Nearly 50% are found in the upper extremity, anterior surface of the forearm being the most common location.[1] Head and neck lesions represent 18% of all lesions.[1] Lesions may be associated with pain and tenderness.[3]

On CT and MR, lesions are usually well-defined, less than 4cm, soft-tissue masses, but deeper, particularly intramuscular lesions, may present with a more infiltrative growth pattern, and may even invade and destroy adjacent structures, including bone.[3] MR SI is variable and results from the high variability of histologic features - some lesions are highly cellular, presenting nearly isointense to muscle on T1WI and hyperintense on T2WI, while others are more fibrous, presenting with low SI on all sequences.[1] Contrast enhancement is usually diffuse but may be peripheral when a higher extracellular myxoid component or a central cystic space is present.[1]

The differential diagnosis of nodular fasciitis includes extrabdominal desmoid tumour, fibrous histiocytoma, fibrosarcoma neurofibroma and soft-tissue sarcoma.[1, 3] Intramuscular lesions may also simulate early miositis ossificans.[1]

Definite diagnosis is histologic and treatment consists of marginal excision, with a low rate of recurrence (1%).[1] Watchful waiting and steroid injection have also been advocated.[1]

Final Diagnosis

Retropharyngeal nodular fasciitis

Differential Diagnosis List

Nodal metastases, Lymphoma

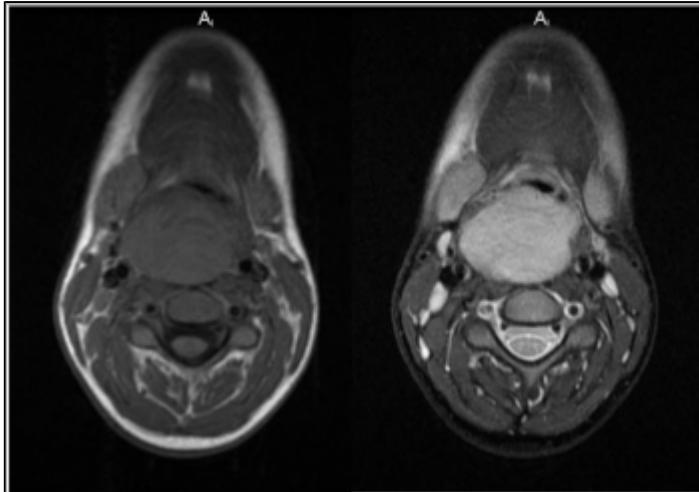
Figures

Figure 1 Figure 1



Lateral cervical spine X-ray depicts convex bowing of the air column at the level of the hypopharynx, larynx and upper trachea suggesting a retropharyngeal or prevertebral mass.

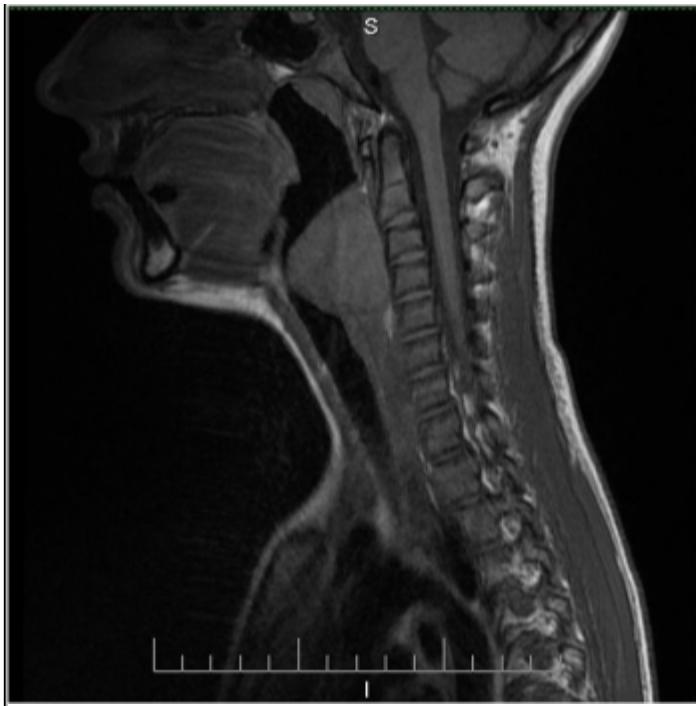
Figure 2 Figure 2



Axial mid-cervical FSE MR images, T1-weighted (left) and T2-weighted (right). The mass pushed pre-vertebral muscles posteriorly, larynx anteriorly and oesophagus left-laterally, thus being located in the retropharyngeal space.

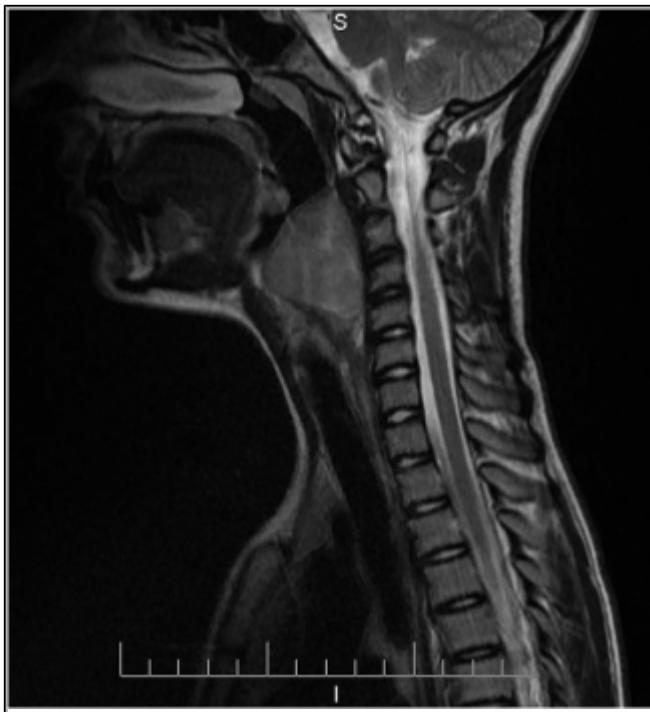
Figure 3 Figure 3





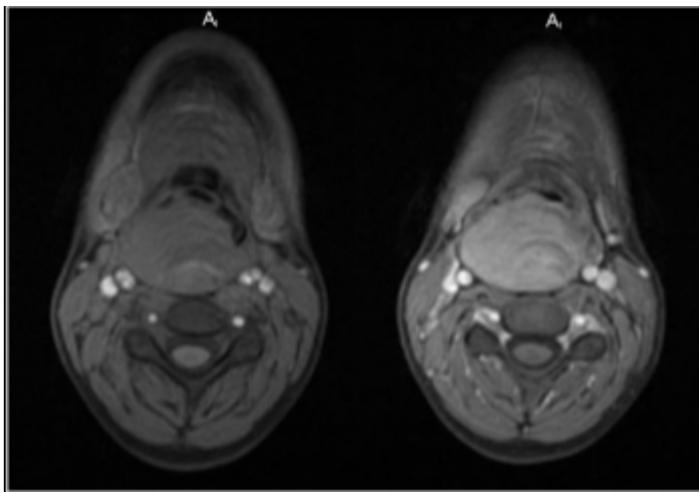
Sagittal cervical FSE T1WI. The oval retropharyngeal mass was intermediate SI in T1WI. It presented with regular borders and showed no signs of invasion of the cervical spine.

Figure 4



Sagittal cervical FSE T2-weighted MR image. The mass had high signal intensity on T2WI. The posterior pharyngeal mucosa was displaced anteriorly by the mass but showed no clear signs of invasion.

Figure 5



Axial GRE FS T1-weighted pre (left) and post-contrast (right) MR images. The mass did not lose SI on FS images, thus excluding the presence of macroscopic fat, and showed heterogeneous enhancement after IV contrast.

MeSH

Neck [A01.598]

Neoplasms, Connective and Soft Tissue [C04.557.450]

Neoplasms developing from some structure of the connective and subcutaneous tissue. The concept does not refer to neoplasms located in connective or soft tissue.

References

- [1] Dinauer PA, Brixey CJ, Moncur JT, Fanburg-Smith JC, Murphey MD (2007) Pathologic and MR Imaging Features of Benign Fibrous Soft-Tissue Tumors in Adults Radiographics 27:173-187
- [2] Koenigsberg RA, Faro S, Chen X, Marlowe F (1996) Nodular Fasciitis as a Vascular Neck Mass AJNR 17:567-569
- [3] Kim ST, Kim HJ, Park SW, Baek CH, Byun HS, Kim YM (2005) Nodular Fasciitis in the Head and Neck: CT and MR Imaging Findings AJNR 26:2617-2623

Citation

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Retropharyngeal nodular fasciitis {Online}

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