Benign Fibrous Histiocytoma of the Left Tenth Rib

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Abstract

We report a case of benign fibrous Histiocytoma of the left tenth rib in a 40-year-old man. CT revealed an expanding lesion with calcification. An open biopsy of the lesion was performed and subsequently wide surgical resection of the left 10th rib was performed. Histological diagnosis was consistent with benign fibrous Histiocytoma of the rib.

Keywords: Benign Fibrous Histiocytoma (BFH); Giant cell tumour; Plasmacytoma; Malignancy

Introduction

Benign Fibrous Histiocytoma (BFH) of the bone is a rare tumor which most commonly involves the wing of the ilium and long bones. Patients range from 5 to 75 years in age and no sex predilection has been noticed. Until recently BFH was considered to be a variant of metaphyseal fibrous defect (including fibrous cortical defect, non-ossifying fibroma etc.).

BFH of the rib is an extremely rare entity, and very few reports have been published in literature.

Case Presentation

We present a case of a 40 year old male with history of left sided chest pain for two months. He did not have any history of trauma. Local examination did not suggest any skin changes and there was no palpable mass. The diagnostic imaging (X ray chest and CT Thorax) was suggestive of a solitary expansile lesion of the left 10th rib. Computed Tomography (CT) scan of thorax revealed a well-defined lytic bone lesion.

The tumour originated from the middle portion of the left 10th rib. The lung fields, mediastinum, and pleura were normal. The remaining scan did not show any other obvious bony abnormality. The differential diagnosis made on CT scan was: Giant Cell Tumour (GCT); Plasmacytoma; and Benign Fibrous Histiocytoma (BFH).

He underwent biopsy of the rib lesion to confirm pathology and rule out a metastatic lesion. The biopsy was BFH of the rib for which he subsequently underwent resection of the left 10th rib. Part of 10th rib containing (Figures 2 and 3) the residual tumour (BFH) was excised by achieving a 2 cm margin on either side. Grossly the tumour showed two fragments of a rib 45 × 20 × 10 mm and 40 × 35 × 17 mm.
The zone of transition of the lesion is narrow. Cortical expansion and soft tissue invasion are rarely seen. On MRI scans, there is central low signal intensity with a surrounding rim of high signal on T1, and more uniform but somewhat variegated high signal intensity on T2 sequences, with the surrounding sclerotic bone having low signal intensity. Treatment options for benign fibrous Histiocytoma include wide resection of the tumour or curettage [7] and bone grafting.

Benign fibrous Histiocytoma is microscopically identical to metaphyseal fibrous defect, non-ossifying fibroma but benign fibrous Histiocytoma is usually seen in older age group and have low recurrence rates [8-10]. Occurrence of benign fibrous Histiocytoma of the rib is a very rare occurrence [11,12]. CT scan shows a moderately irregular lytic area with a prominent trabecular pattern and surrounding sclerotic bone [13].

Case reports still have a place in publication on account of their importance for clinical education and training of healthcare professionals. This rare case of benign [14,15] fibrous Histiocytoma being the case in point.

References