Nodular histiocytic hyperplasia of pericardium: An uncommon lesion posing diagnostic challenge

Sir,

Nodular histiocytic hyperplasia (NHH)/Nodular histiocytic proliferation (NHP) is an under-recognized benign lesion that involves reactive proliferation of histiocytes.

We present a case of a 62-year-old female, who was a known case of myasthenia gravis. On radiological examination, she was found to have an enlarged thymus and a mildly fluorodeoxyglucose (FDG) avid nodule in right lower lobe of lung. Patient was operated

for suspected thymoma with thoracoscopic radical thymectomy and wedge resection of the lung nodule. Intraoperatively, a tiny firm nodular lesion was noted on the pericardial surface, after removal of enlarged thymic gland [Figure 1], which was also excised and all the three specimens were submitted for histopathological evaluation.

Thymus showed features of thymoma, and lung nodule turned out to be anthra-silicotic nodule. Section from the pericardial nodule (grossly measuring 0.3 × 0.2 × 0.1 cm) showed fibro-connective and fibroadipose tissue focally lined by benign mesothelial cells. Also identified were nodular aggregates of plump oval to polygonal cells having abundant eosinophilic cytoplasm and small round to oval nucleus, present central to eccentrically [Figures 2a and 2b]. Focal areas showed dense lymphocyte rich inflammatory infiltrate lying adjacent or admixed with these cellular aggregates. No significant cellular atypia, mitosis or necrosis was identified. Some foreign crystalline-talc particles were also seen admixed with these cells, showing white birefringence on polarizer. On immunohistochemistry, these cells were positive for vimentin [Figure 3a], CD68 [Figure 3b] and S-100 [Figure 3c] and were negative for calretinin [Figure 3d], WT-1, CK, synaptophysin, desmin and myoglobulin. Therefore, a final diagnosis of NHH of pericardium was given.

NHH is a benign proliferation of histiocytic cells mostly involving mesothelial surfaces. NHH has been described at many mesothelium-lined locations with pleural, pericardial, and peritoneal being the most common.[1] Rarely, unusual involvement of other sites like endometrium, urinary bladder and hernial sac is also reported.[2-4] Some controversy regarding their cellular origin has long persisted. Initially, they were thought to be of mesothelial origin, but immunohistochemical expression of histiocytic nature, including CD68 and S-100, and negativity for mesothelial markers, as in our case, strongly favors a histiocytic origin,[3] though few authors have reported dual expression and thus suggest a dual origin.[1]

NHH can be clinically confused with other benign or malignant lesions. Histomorphologically, it can be mistaken for either a granulomatous lesion, carcinoma or Langhans cell histiocytosis, as the cells are known to show varying degree of atypia and mitotic activity.[1,3] However, it is often a chance finding and does not carry any prognostic significance. Therefore, prior knowledge of this entity with relevant immunohistochemistry should help to eliminate the unnecessary concern and thus prevent overdiagnosis and overtreatment. The idea behind this short communication is to highlight the need of recognizing NHH as it represents an undeniable potential diagnostic pitfall.

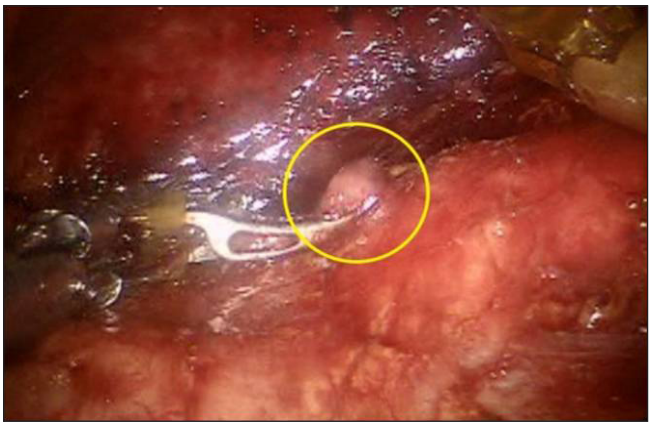

Figure 1: Intraoperative view showing (encircled) pericardial nodule over arch of aorta

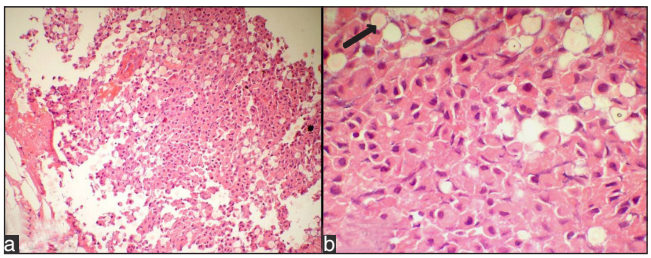

Figure 2: (a) Fibrofatty tissue with nodular aggregates of histiocytic cells (H&E ×200) (b) Cells are oval to polygonal with abundant eosinophilic cytoplasm and small, central to eccentric, round to oval nucleus. Arrow shows some foreign crystalline material, talc particles (H&E ×400)

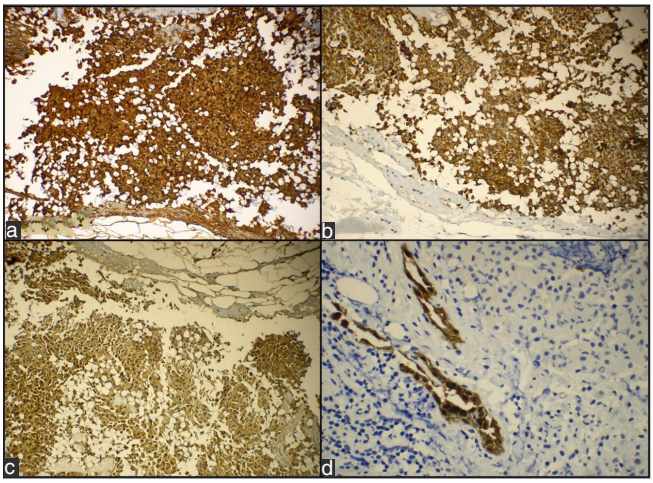

Figure 3: Cells are positive for (a) vimentin (b) CD68 (c) S-100 and negative for (d) calretinin. Mesothelial lining is positive for calretinin

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REFERENCES

1. Chikkamuniyappa S, Herrick J, Jagirdar JS. Nodular histiocytic/

mesothelial hyperplasia: A potential pitfall. Ann Diagn Pathol 2004;8:115-20.
2. Kim KR, Lee YH, Ro JY. Nodular histiocytic hyperplasia of the endometrium. Int J Gynecol Pathol 2002;21:141-6.
3. Ordóñez NG, Ro JY, Ayala AG. Lesions described as nodular mesothelial hyperplasia are primarily composed of histiocytes. Am J Surg Pathol 1998;22:285-92.
4. Rao S, Khurana N, Mohta A. Nodular histiocytic proliferation in hernia sac: A potential diagnostic pitfall. Indian J Pathol Microbiol 2012;55:126.

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