

Case Report

Schwannoma In A Perigastric Lymph Node: A Rare Case Report

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ABSTRACT

Schwannomas are benign nerve sheath tumors that originate from any anatomical site. Most of the schwannomas are found in the head, neck or limbs. Schwannoma arising in a lymph node is extremely rare. We have found only four cases in the review of the literature.

We experienced a case of intranodal schwannoma in a perigastric lymph node. A 72 year-old female underwent cholecystectomy due to clinical signs of cholecystitis. A mass was found in perigastric area on lesser curvature of the stomach. The mass was excised in an encapsulated state. On histological examination, the node was composed of a proliferation of bland spindle cells, which immunohistochemically was positive for S100 protein and negative for smooth muscle actin, desmin, and cytokeratin. The morphologic and immunohistochemical studies revealed an extremely rare case of schwannoma of the lymph node.

Key words: Lymph node, Neurilemoma, Schwannoma

Introduction

Primary mesenchymal tumors of lymph nodes are rare (1). Primary intranodal schwannomas are extremely rare. Schwannoma is one of the few truly encapsulated neoplasms of nerve sheath origin which have a predilection for the head, neck and flexor surfaces of the upper and lower extremities, often in association of a nerve. Deeply situated tumors are abundant in the posterior mediastinum and the retroperitoneum (2). On microscopic examination, tumors show a mixture of two growth patterns. In the Antoni A pattern of growth, elongated cells with cytoplasmic processes are arranged in fascicles in areas of moderate to high cellularity with little stromal matrix; in the Antoni B pattern of growth, the tumor is less densely cellular with a loose meshwork of cells along with microcysts and myxoid changes. In both areas, the cytology of the individual cells is similar,

with elongated cell shape and regular oval nuclei. The Schwann cell origin of these tumors is borne out by their S-100 immunoreactivity. Primary schwannomas of lymph nodes are extremely uncommon as well as their abdominal location. We encountered only four previous reports concerning intranodal schwannoma, three benign and one malignant arising in lymph nodes (3-6).

Here we report an unusual intranodal schwannoma arising in a perigastric lymph node with its clinical, light microscopic, and immunohistochemical findings.

Case Report

A 72-year old female admitted with a chief complaint of progressive abdominal pain. Sonography of gall bladder revealed a diameter of 3.5 cm and four gall stones, the greatest was measuring 1.8 cm in diameter.

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The patient underwent cholecystectomy. During procedure, a mass was found on the lesser curvature of the stomach which was resected associated with a piece of gastric wall. We received a grayish brown lymph node measuring 1.5x1.5x1 cm. Cut surface was homogenous grayish-white. Gastric wall biopsy was composed of an irregular creamy-brown soft tissue measuring 2x1.5x1 cm, which on cutting was unremarkable. Histological studies showed a lymph node structure, near totally replaced by a well-circumscribed proliferation of spindle cells with wavy nuclei, sometimes with palisading arrangement, surrounded by a peripheral rim of compressed lymphoid tissue (Figure. 1&2). The tumor was

composed of compact bland looking spindle cells with wavy or twisted nuclei and indistinct cytoplasmic borders arranged in short bundles or interlacing fascicles with focal nuclear palisading resembling antoni A growth pattern. Mitotic figures were not found. Immunohistochemical staining showed positive strong reaction with S100 (Figure 3) and negative results with SMA (Figure 4), desmin, CD34, CD68, LCA, HMB 45 and keratin. Gastric wall biopsy only showed H. pylori associated chronic active gastritis with intestinal metaplasia without any evidence of neoplastic involvement. These findings were consistent with the diagnosis of primary intranodal schwannoma, an extremely rare location for this benign tumor.

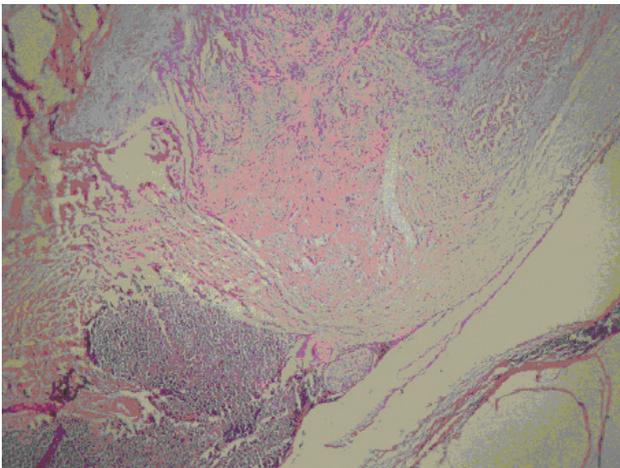


Figure 1. Lymph node structure near totally replaced by a benign proliferation of spindle cells (H&E staining, x100)

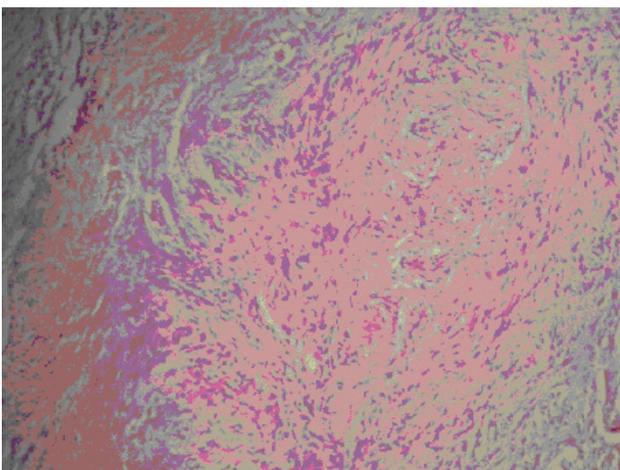


Figure 2. High power view shows areas reminiscent of Antoni A pattern with nuclear palisading (H&E staining, x4000)

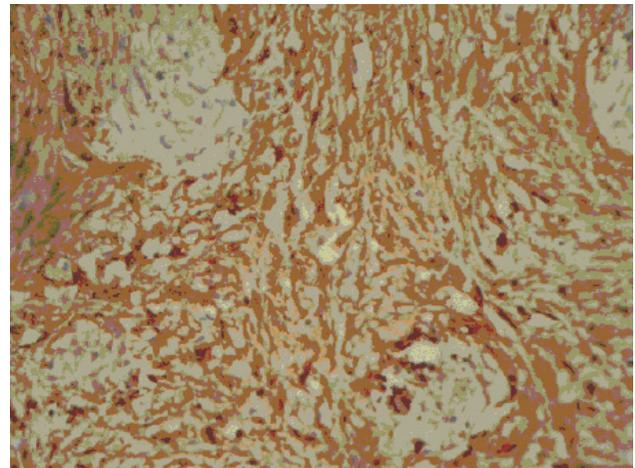


Figure 3. Positive nuclear staining for S100 in tumoral cells

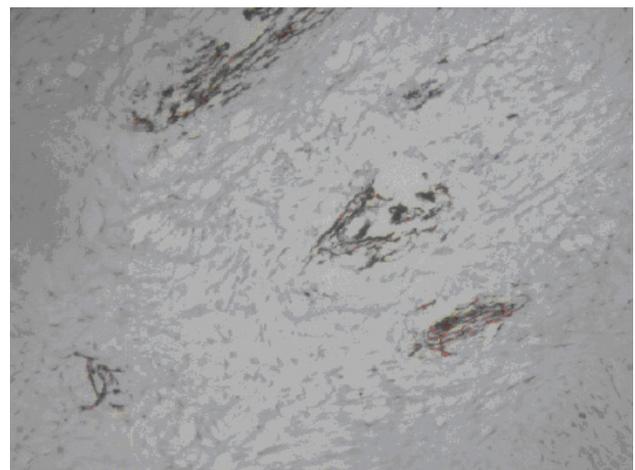


Figure 4. Negative staining for SMA in tumor cells. Note positive staining of vessels, wall as an internal control

Discussion

Primary schwannoma of lymph node is very rare. We have found only four cases in the review of the literature. One of them was malignant and others were benign. Cattani et al reported the first case of a primary malignant schwannoma of a lymph node (3).

The second case reported by Griffiths et al as an intranodal schwannoma arising in the area of the left scapula in a 2-year old male infant (4) and the third case reported by Piana et al in a pericolic lymph node of a 79-year old female with colon cancer (5). Reinius et al reported an intranodal schwannoma presenting in a 35-year old male with an incidental finding of a left adrenal mass, identified during an ultrasound performed for urinary tract infection (6).

Lesions considered in the differential diagnosis of intranodal schwannoma are metastatic spindle-cell tumors including sarcomas, spindle cell carcinoma and melanomas, primary malignant spindle cell tumors such as Kaposi's sarcoma (7), spindle cell follicular dendritic cell sarcoma (8) and interdigitating dendritic cell sarcoma (9), as well as benign spindle cell tumors of lymph node. Especially in our case it is important to avoid confusion between intranodal schwannoma and metastatic gastrointestinal spindle cell tumors (GIST). The absence of neoplasm in gastric wall biopsy enables the correct diagnosis. Metastatic spindle cell neoplasms to lymph node, such as sarcomatoid carcinomas, sarcomas and melanomas are relatively more common than primary spindle cell tumors of lymph nodes. Unlike schwannoma, they show malignant mitotically active spindle cells. Also, negative cytokeratin and HMB45 rules out metastatic carcinomas or melanoma to the lymph node. Among soft tissue sarcomas metastatic to lymph nodes synovial sarcoma, MFH, rhabdomyosarcoma and angiosarcoma are relatively more frequent and malignant schwannoma do so very infrequently (10).

In follicular and interdigitating dendritic cell sarcomas, the neoplastic cells are generally plumper than schwannoma cells and usually form nests and whorls. Unlike schwannoma, they express LCA, CD35 and CD68. Primary Kaposi sarcoma of the lymph node may show relatively bland-looking spindle cells, but the presence of slits containing erythrocytes, hemosiderin pigment and immunohistochemical profile (CD34 positive) enables ruling out the schwannoma. Other remarkably uncommon differentials are benign spindle cell

tumors of lymph node. Most of them are palisaded myofibroblastoma (11), which is exclusively located in the inguinal lymph nodes are more common in men and is microscopically characterized by proliferation of spindle cells, interstitial hemorrhage and amiantoid fibers (12). These tumors are actin positive and S100 protein and desmin negative (13). Benign metastasizing leiomyoma in a lymph node is another rare possibility. The difficulty can be further compounded by the fact that schwannomas and leiomyomas can display equivalent degrees of nuclear palisading. Expression of S100 protein and negative immunostaining for actin is helpful in rendering the correct diagnosis (2). Inflammatory pseudotumor of the lymph nodes is a recently characterized entity and shows proliferation of spindle cells, small blood vessels and inflammatory cell infiltrate which differs from schwannoma because of its inflammatory character, being particularly rich in plasma cells (1,12).

As a conclusion, we reported a rare case of intranodal schwannoma in a perigastric lymph node with its clinical, morphologic and immunohistochemical findings. Intranodal schwannoma should be considered in the differential diagnosis of primary and metastatic spindle cell tumors of the lymph node.

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