

Primary splenic epithelioid mesothelioma: A rare occurrence

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CASE REPORT

A 63-year-old multiple sclerosis patient presented to our institution with a history of sudden abdominal pain of two weeks duration. The pain was predominantly localized to the left upper quadrant radiating to the back. On examination, mild tenderness of the abdomen was noted. Peripheral lymphadenopathy was absent. Computed tomography (CT) scan of abdomen and pelvis showed moderate to massive splenomegaly measuring 15 cm in greatest dimension below the costal line, with a large heterogeneous mass measuring 11 × 7 cm. Positron emission tomography (PET) CT revealed intense fluorodeoxyglucose (FDG) accumulation which was worrisome for lymphoproliferative disorder. No other abnormal FDG uptake elsewhere in the body was noted. Robotic-assisted splenectomy was performed and the specimen was sent to Pathology Laboratory for evaluation including for lymphoma work-up. Grossly, the spleen weighed 754 g and measured 21 × 10.5 × 8 cm and on cut section showed multiple tan nodules ranging in size from 0.1 × 0.1 cm to 12 × 9 × 5.5 cm (Figure 1A). Sections from the attached adipose tissue revealed multiple, tiny matted nodes.

Histologic evaluation showed a malignant predominantly epithelioid tumor (Figure 1B). Focal papillary and clear cell features were present with extensive areas of necrosis and vascular invasion. The tumor cells were diffusely positive for CK 7, mesothelioma markers including D2-40 (Figure 1C), Calretinin (Figure 1D), WT1. All other antibodies tested against including

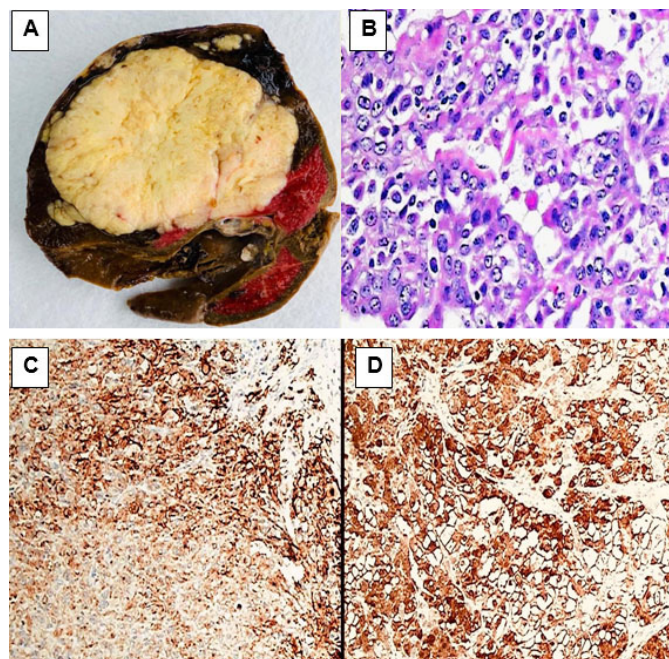


Figure 1: (A) Macroscopic image with a tan nodule occupying most of the parenchyma. (B) Microscopic picture (400×) showing tumor tissue composed of epithelioid cells. (C) IHC stain positive for D2-40. (D) IHC stain positive for Calretinin.

estrogen receptor (ER), progesterone receptor (PR), PAX-8, TTF-1, SOX10, CD34, CD31, S100, ETS-related gene (ERG), CDX2 and Inhibin turned were negative. Two out of eight lymph nodes showed metastatic deposits. Based on morphology and immunohistochemical features a diagnosis of splenic epithelioid mesothelioma was rendered.

DISCUSSION

Malignant mesothelioma arises from the mesothelial surfaces of pleura, peritoneum, pericardium, and tunica vaginalis. History of occupational asbestos exposure can be elicited in most cases.

Primary malignant mesothelioma in solid organs is unusual and only handful of cases involving lung, gonads, liver, spleen, and pancreas have been reported in English language literature [1]. These occur as localized malignant

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mesotheliomas in the absence of pleural, peritoneal, or pericardial involvement. Several theories have been put forth to explain the origin of these tumors in solid organs including from an invaginated capsular epithelium [2, 3] or a preexisting inclusion cyst or transition of native epithelial cells. To the best of our knowledge, this is the second case of splenic malignant mesothelioma reported in the literature. Differential diagnosis for splenic mesothelioma includes a wide variety of benign and malignant etiologies including localized mesothelioma, lymphomas, epithelioid angiosarcoma, and metastases [3]. Careful histologic evaluation with a panel of mesothelial markers will help arrive at the correct diagnosis.

CONCLUSION

In conclusion, we report the second case of primary splenic mesothelioma in the absence of serosal involvement.

Keywords: Epithelioid mesothelioma, Spleen

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Author Contributions

Niveditha Jayakumar – Conception of the work, Interpretation of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Dhivya Manoharan – Conception of the work, Interpretation of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Guarantor of Submission

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Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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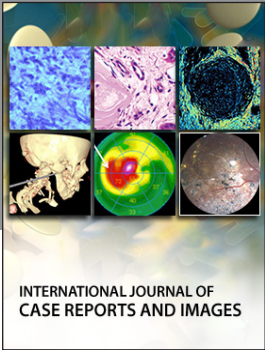
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