Research Paper

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Sarcomatoid Variantof Malignant Mesothelioma-A Case Report

Medical Science

KEYWORDS : Sarcomatoid mesothelioma- Vimentin-Calretnin

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ABSTRACT

Sarcomatoid mesothelioma is the least common but the most aggressive of the three major histological types of the mesotheliomas.Most tumors were pleural. Asbestos fibreswere significantly higher in the sarcomatoid cases. Patients with this malignancy generally do not have a complete response. Malignant mesotheliomas pose both the diagnostic and a treatment challenge. The extremely long latency from a time of initial asbestos exposure to tumor development and the lack of effective modes of therapy are barriers to eradicating the disease.

Introduction:

Malignant mesotheliomas arise from mesothelial cells lining the visceral cavities. Diffuse mesothelioma is the most common of these neoplasms .The WHO classifies malignat mesotheliomas into epithelial,sarcomatoid and biphasic types[1] each of which can be subdivided further. This classification has implications for both diagnosis and prognosis. Prognosis is poor for all malignant mesotheliomas.

Case Report:

A female 45 years old complains of mass per abdomen since 2 months,associated with pain and history of hysterectomy for DUB 8 years back. She also had history of dyspnea, fatigue, cough and wheezing. She had no Fever, hemoptysis or leg edema. Her blood pressure and pulse rate were within normal limits. Examination revealed averagely built person and neither clubbingnor lymphadenopathy was found. Routine blood investigations were within normal limits. Tumor marker like CA 125was carried out giving a result of100.07 IU/ml (with the normal value being <35 IU/ml). CT scan abdomenshowed3 different massesthe first one being a large mass in pelvis measuring 10x8cms and another mass of 14x12cms in the mesentry and the last being acircumscribed mass of 7x6cms, adherent to anterior abdominal wall. On opening the abdomen multiple nodular masses were seen with adhesions to intestines. Tumor de-bulking was done.We received multiple gray white to yellowish brown masses of total sixe 32x31x4cms and the cut section showed gray white and few areas showing variegated appearance. Microscopically the neoplasm is composed of hyper and hypo cellular areas. The sarcomatoid pattern is characterized by a hyper-cellular spindle celled neoplasm and also characterized by elongated nuclei, numerous mitotic figures and eosinophilic cytoplasm.A differential diagnosis of malignant sex cord stromal tumor, malignant GIST of peritoneal origin,Malignant mesothelioma, Malignant Hemangiopericytoma and synovial sarcoma were made.Panel of IHC markers Desmin, EMA, CD-34, low molecular weight Cytokeratin, Inhibin, C- kit ,WT-1 , Vimentin and Calretinine were done.Based on the features of microscopic appearances, positivity for Vimentin and Calretininea diagnosis of sarcomatoid variant of malignant mesothelioma was made.

Summary of IHC markers:

Desmin - negative
EMA - negative
CD34 - negative
LMWCK - negative
Inhibin - negative
C – kit - negative
WT 1 - negative
Vimentin – positive
Calretinin - positive

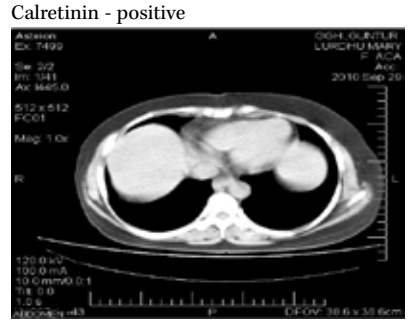


Fig 1- CT scan abdomen: showing a large mass in pelvis measuring 10x8cms; another mass of 12x14cms in the mesentery & another circumscribed mass of 6x7cms, adherent to anterior abdominal wall.

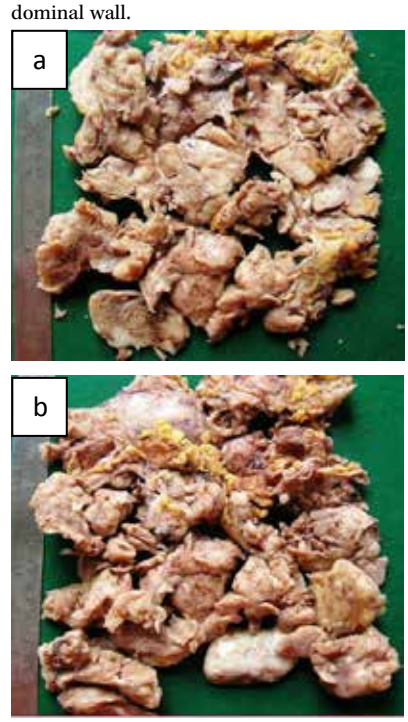


Fig-2(a)-external surface; 2(b)-cut surface

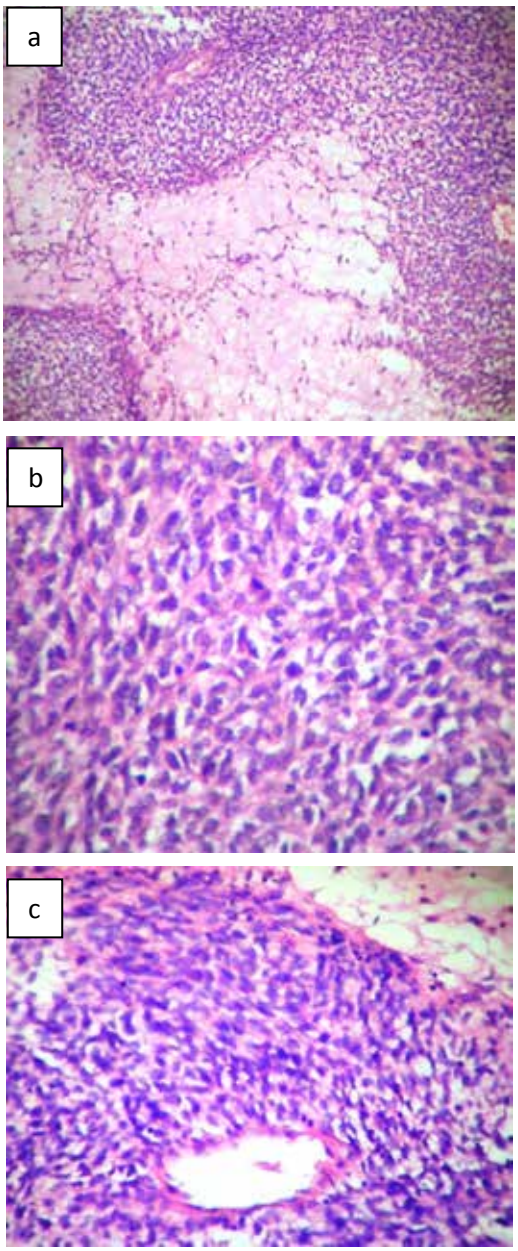
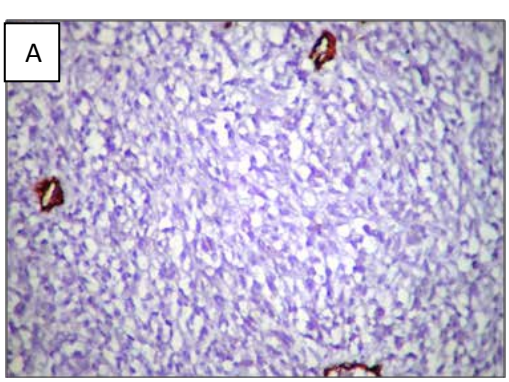


Fig 3- Haematoxylin and eosin-stained sections.**(a)**Hyper and hypo cellular areas **(b)**sarcomatoid pattern is characterised by hypercellular spindle-cell neoplasm and also characterized by elongated nuclei and eosinophilic cytoplasm. **(c)**Perivascular pattern of tumor cells.



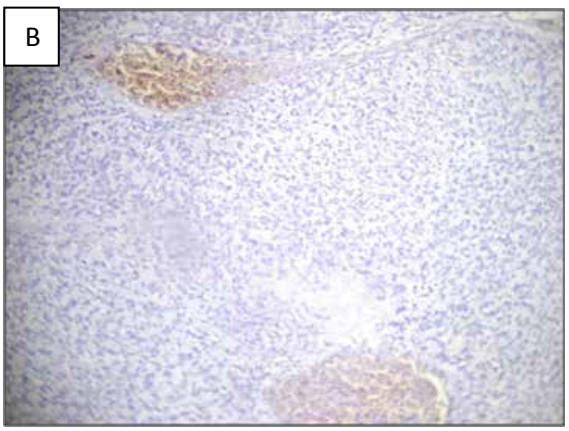
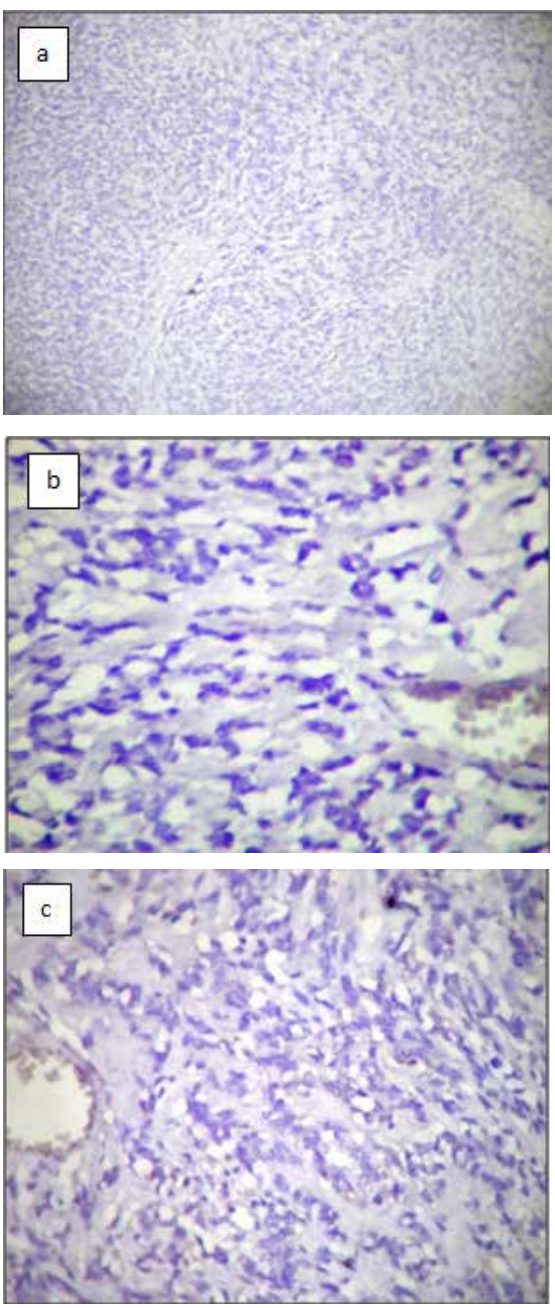


Fig 4(a)-CD 34 4(b)-EMA



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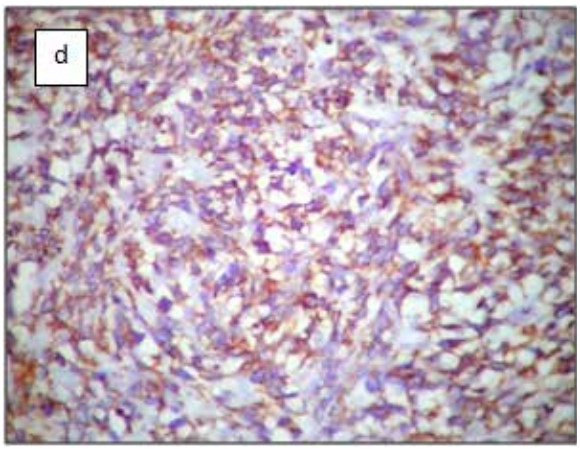

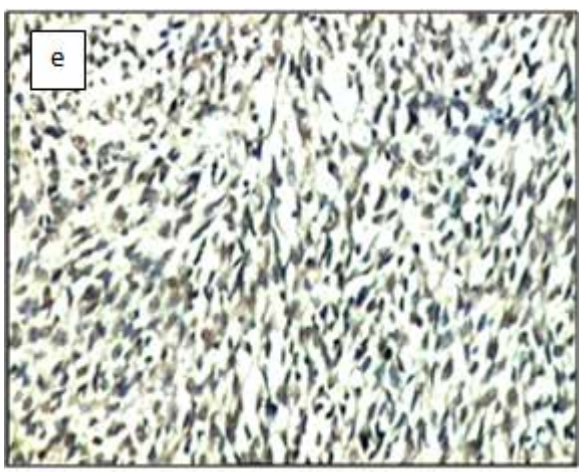

Fig 5(a) Desmin**5(b)**Inhibin**5(c)** LMW-CK. Immunohistochemical staining for **5(d)**Vimentin&**5(e)**Calretininsarcomatoid malignant mesothelioma.

Discussion:

Sarcomatoid malignant mesothelioma may resemble a soft tissue malignant fibrous histiocytoma or fibrosarcoma and some show extreme nuclear pleomorphism and resemble the pleomorphic variant of malignant fibrous hystiocytoma[2-4.]The sarcomatoid malignant mesothelioma may show leomyoid features5 and heterologous elements such as chondrosarcomatous or osteosarcomatous differentiation or both occur rarely6 The origin of sarcomatoid malignant mesothelioma outside of the pleura is rare.Diffuse malignant mesothelioma is a once rare primary neoplasms of the mesothelial tissues of the pleura peritoneum, pericardium and tunica vaginalis testis, approximately 80% of these lesions occur in the individuals who has been exposed to asbestos. Malignant mesotheliomas need to be distinguished from the less common focal benign mesothelioma they are not related to asbestos exposure have a favourable prognosis and often do not reccur afters surgical resection.

Conclusion:

Sarcomatoid Malignant mesotheliomas can be difficult to diagnose and is nearly untreatable. Asbestos exposure remains a major factor in the pathogenisis of this malignant mesotheliomas. Adequate tissue sampling is important to permit accurate diagnosis.Patients who have early disease when they first see aphysician may derive a survival benefitfrom a multi modality-therapatic approach. However despite the availability of several diagnostic and therapatic options most patients with malignant mesothelioma will rapidly die of the disease.

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