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Case Report

Malignant peritoneal mesothelioma with unresolving haemorrhagic ascites- A case report

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ABSTRACT

Background: Peritoneal mesothelioma being a rare tumor is difficult to diagnose and start treatment. Pleura is the most common area being affected by mesothelioma, peritoneum being the second common site, and in some cases synchronous pleural and peritoneal mesotheliomas are observed (30–45% of the cases). The presentation of mesothelioma is not up to mark leading to difficulty in diagnosis due to lack of specific symptoms and clinical findings. In addition, in the absence of previous asbestos exposure a delay in the diagnosis is not rare. Here we report a case of malignant peritoneal mesotheliomas. The diagnostic and therapeutic approaches for these rare neoplasms are discussed.

Case Presentation: A 24 year old male patient was admitted with complaints of pain abdomen (on & off) and abdominal distension since 15 days, with no inhalational exposure to asbestos, causing diagnostic confusion. He had history of unresolving haemorrhagic ascites. No drug allergy was noted. Diagnostic laproscopy was done, shows multiple omental nodules. Omental biopsy along with immunohistochemistry leads to diagnosis of malignant peritoneal mesothelioma.

Conclusion: Peritoneal mesotheliomas are infrequent clinical entities. However, patients presenting with prolonged abdominal pain and ascitis should be considered to have atypical pathologies with peritoneal mesotheliomas being one of the differentials.

1. Introduction

Peritoneal mesothelioma is a infrequent and aggressive tumor that involves the peritoneal lining of the abdomen. Although peritoneal mesothelioma and pleural mesothelioma are two different entities, they've been treated the same way, the more common form being the mesothelioma that is found in the lining of the lungs. In U.S. 3,000 new cases of mesothelioma are diagnosed each year, of which 300 to 500 of these are peritoneal mesothelioma.

Asbestos exposure is one of the major cause of pleural mesothelioma but in case of peritoneal mesothelioma, asbestos exposure is associated in 30- 40% of the cases. Chance of recovery or chance of recurrence depends on factors such as age, pain, ascites, fever, weight loss, tumor size, histological type, completeness of cytoreduction and biologic markers have been investigated.

Diagnosis of peritoneal mesothelioma is often delayed because of the long latent period (peaking at 40–45 years from the time of initial exposure to asbestos), and the common presenting symptoms of weight loss, and other presenting signs and symptoms such as distended abdomen, malaise, and abdominal discomfort, are mild and nonspecific. Peritoneal mesothelioma shows predominantly expansion rather than infiltration, so symptoms are most

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commonly abdominal pain and distension. Because of its different nature, the disease has not been clearly defined in terms of its natural history, diagnosis, or treatment.

Computed tomography (CT) scan and echotomography (ECT) has been of great importance in diagnosing but recently magnetic resonance imaging (MRI), positron emission tomography (PET) and CT/PET have also been utilized. The histopathology of an adequate specimen along with cytology are very important for diagnosis. Therapy includes surgical and medical treatment, either alone or in combination.

2. Case Report

A 24 year old male presented with sign and symptoms of pain abdomen, abdominal distension since 15 days along with weight loss/ appetite. Upper GI endoscopy was done which was normal. CT scan shows gross ascites with areas of omental thickening along anterior aspect. Abdominal tapping was done to drain haemorrhagic ascitic fluid and cytological examination was done was normal. Diagnostic laproscopy was done, shows omental deposits (+++) (Figure 1), sent for histopathological examination. Microscopy shows sheets and cords of dyscohesive, medium to large epitheloid cells with distinct cellular membrane and large, round eccentrically placed nuclei along with clusters of plasma cells and lymphocytes surrounding tumor cells (Figure 2). Immunohistochemistry was strongly positive for Calretinin (Figure 3) and D2-40, hence diagnosis of malignant peritoneal mesothelioma – epitheloid variant was made. Patient was referred to onco-centre for further treatment.

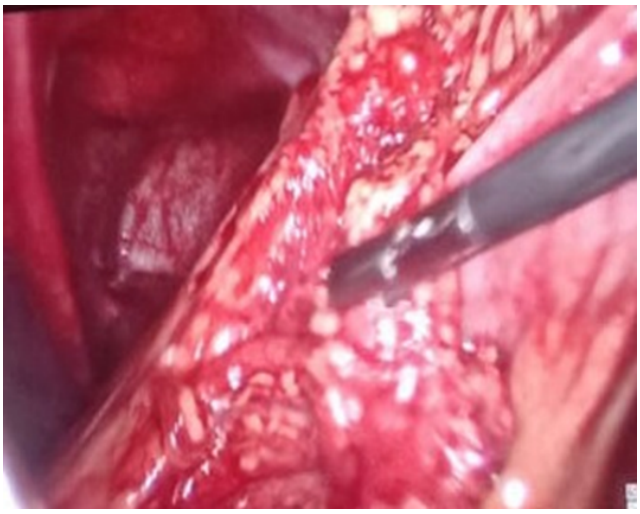

Fig. 1: Diagnostic laproscopy showing omental deposits.

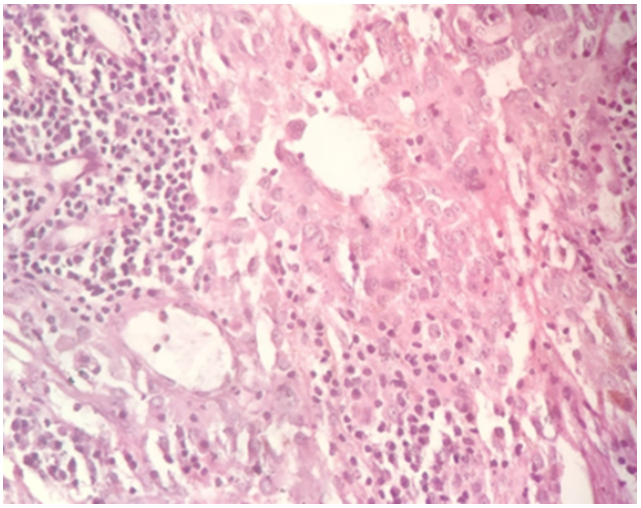

Fig. 2: Sheets and cords of dyscohesive, medium to large epitheloid cells with round eccentrically placed nuclei along with clusters of plasma cells and lymphocytes surrounding tumor cells.

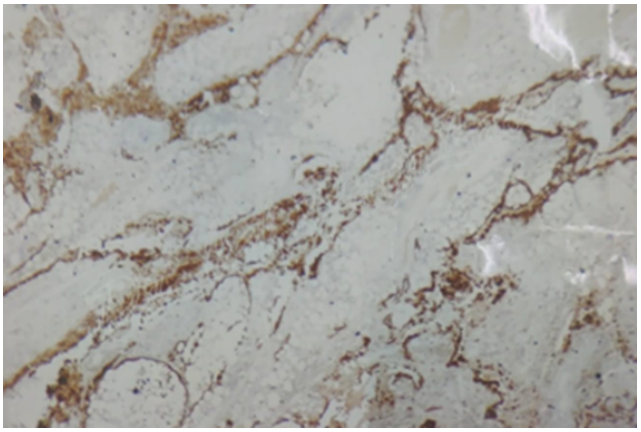

Fig. 3: Immunohistochemistry showing calretinin positivity.

3. Discussion

Mesothelioma is a tumor arising from mesothelial linings of pleura, peritoneum and pericardium, predominantly seen in pleural lining. Peritoneal mesothelioma however occurs rarely and has been mentioned in other areas like tunica vaginalis of testes.[1–4] Pleural mesotheliomas occupies 80% of all the cases. One of the most important cause of malignant mesothelioma is asbestos dust exposure, with pleural mesothelioma being associated with documented asbestos exposure (80%). However peritoneal disease association with asbestos exposure, observed in various epidemiological reports, is weaker and inconclusive.[2,3] Another study showed that simian virus 40 has been named among one of the etiological factors in carcinogenesis of mesothelioma.[5,6]

Diagnosis of mesothelioma is insidious and difficult and is based on both radiological and histopathological

correlation. Most of the patients with peritoneal mesothelioma generally present with one of the two types of signs and symptoms: one with confined abdominal pain, along with dominant tumor mass with little or no ascites, and other without abdominal pain, but with ascites and abdominal distention. But in this case patients presented with vague abdominal pain along with abdominal distension and haemorrhagic ascites.[5,7]

Imaging is one of the main diagnostic method in diagnosis of mesothelioma, either by ultrasonography or CT. Laproscopic or open surgery with biopsy send for histopathological examination along with immunohistochemistry can lead to definitive diagnosis. Laparoscopy plays an important role in diagnosing some of the rare cases associated with ascites, such as primary mesothelioma which are usually missed by other diagnostic modalities, such as ultrasound, CT and cytology of the ascitic fluid. Although laproscopy is important procedure, it can lead to unwanted tumor spread to the port sites.[8]

Pathologically, peritoneal mesothelioma has 3 basic histologic forms: epithelioid, being the most common, than sarcomatoid or mixed (biphasic). More often, single tumor shows features of all the three types; a sarcomatoid component being 25% of cases, but a pure sarcomatoid variety is extremely rare and since 2006, only 32 cases have been reported in the literature.[9,10] A positive immunostain for calretinin has markedly increased the precision of diagnosis. Prognosis of the patient depends upon clinical presentation, the completeness of cytoreduction therapy and gender. Survival of women is longer than men with this condition and prognosis improved by the use of intraperitoneal chemotherapy.[2,7] A significant prolongation in the median survival has been achieved after the introduction of cytoreductive surgery followed by intraperitoneal hyperthermic perfusion, with approximately 50% of the patients showing survival till 5 years.[11,12]

4. Conclusion

This case specify the importance of this infrequent clinical conditions such as peritoneal mesotheliomas in the patients presenting with common symptoms such as abdominal pain, abdominal distension, mass, and unresolving ascites. Peritoneal mesothelioma is a rare disease, but should be matter of concern in people who are presenting with abdominal mass, prolonged abdominal pain, and ascites, especially in patients where the early diagnosis is not clear. Asbestos exposure history may not be present in some cases. Diagnosis is often overlooked by radiological investigations. Thus, a thorough clinical assessment and extensive approach is needed to diagnose and properly treat the potential patients with peritoneal mesotheliomas.

5. Conflicts of Interest

There are no conflicts of interest.

6. Source of Funding

None.

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