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Rare Case of Metastatic Peritoneal Mesothelioma Presenting with Intussusception

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ABSTRACT

One of rare tumour that occur in peritoneum is Malugnan peritoneal Mesothelioma (MPM). Metastatic carcinoma may mimic bowel pathology and aetiology of intussusception. 5% of bowel obstruction comes with intussusception, while adult intussusception only represents 1% of all bowel obstruction, and of all hospital requirement only 0.003%-0.02%. We report an unusual case of MPM metastasized to the lungs and brain in a 56-year-old male who presented with chronic nonspecific abdominal symptoms. Computed tomography (CT) scans revealed apical pleural mass with ileocaecal intussuception. The diagnosis of malignant peritoneal mesothelioma confirmed by microscopic and immunohistochemical examinations. Malignant Mesothelioma neoplasm arised from mesothelial cell lining which commonly found from the serosal surface of pleura, peritoneum, pericardium and even tunica vaginalis of the testis. (2). While in Malaysia as of 2018 mesothelioma only account for 0.01% of new reported cancer cases. The non specific presentation, clinical symptoms and varied presentation often delays the diagnosis and treatment with common misdiagnosis of malignant peritoneal mesothelioma as another neoplasm arising from other abdominal organ. Adult bowel intussusception cases are rare among bowel pathology presentation and most of it associated with pathological lesion (3).

Key word: malignant peritoneal mesothelioma, intussusception, disease progression, hemicolectomy

CASE REPORT

A 56-year-old gentleman presented to the hospital with complaints of lethargy, abdominal pain, and alternating cycles of diarrhea and constipation, however he had no history of chronic asbestos exposure. On further history he admitted to have poor oral intake and progressive weight loss. Physical examination revealed a distended abdomen with minimal tenderness to palpation at right iliac fossa.

Relevant laboratory studies concluded the patient was anemic with hemoglobin of 4.8 g/dl, white blood cell count of 9.5 x 10^9/L, thrombocytosis with a platelet count of 637 x 10^9/L as well as sodium of 131 mmol/L . Tumor markers included CEA of 3.8 ng/ml and Alpha Feto-Protein of 0.7 ng/ml. Chest Radiograph shows left apical lung mass (*fig. 1*). A Computed Tomography (CT)

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of the thorax, abdomen and pelvis revealed illeocaecal intussusception with thickened enhancing caecal wall and intramural nodule (*fig. 2*). Enhancing lesion with suspicious lymph nodes, irregular thickened enhancing rectal and sigmoid bowel wall causing luminal narrowing at rectosigmoid junction suspicious lesion, large pleural apical mass with multiple enhancing matted mediastinal lymph nodes (*fig. 3*).

Colonoscopy showed hepatic flexure mass occupying the lumen suspicious of part of intussusception and unable to pass through scope. After optimization, the patient undergone exploratory laparotomy and right hemicolectomy performed with intraoperative findings of chronic sign of ileocaecal intussusception and multiple serosal matted lymph nodes (*fig. 4, 5*). Histo-pathology findings supported the diagnosis of metastatic peritoneal mesothelioma, composed of poorly differentiated epitheloid cells. Immunohistochemical stains demonstrated cells positive for calretinin, CKAE1/AE3, CK7, and negative for CK20, CEA, MOC-31, CK 5/6 and synaptophysin. Post operation, the patient had episodes of seizures and he was discovered to have brain metastasis. Subsequently the patient was referred to Oncology for palliative treatment.

DISCUSSION

Peritoneal mesothelioma is a rare tumour with a median survival of less than one year, and also were reported to have poor prognosis. However, recent studies have reported a median survival of 60-90 months which attributed by the progress in treatment. the strong association between peritoneal mesothelioma and asbestos exposure were also founds in multiple studies. (1,3). The disease affects more men than women. Mesotheliomas are reported has association with asbestos exposure. However, our reported case is not related to asbestos exposure. Other etiologies or cofactors have been linked to malignant mesothelioma development, e.g., genetic predisposition, exposure to certain other mineral fibers such as erionite. The latent period between asbestos exposure and Simian virus 40 (SV40), and disease onset averages about 20–30 years (4).

The most frequently reported symptoms are ascites (29%), abdominal pain (28%), abdominal mass (10%), fatigue (25%), fever (9%) and weight loss (2%). Bowel intussusceptions related of mesothelioma have rarely reported and was associated with localized malignant peritoneal mesothelioma (3). The clinical presentation of intussusception in adults can be variable, posing a challenge to diagnosis. The "classic" pediatric presentation of abdominal pain, bloody currant-jelly stools, and palpable tender abdominal mass, seen in 15% of pediatric intussusceptions, is rarely seen in adults (2).

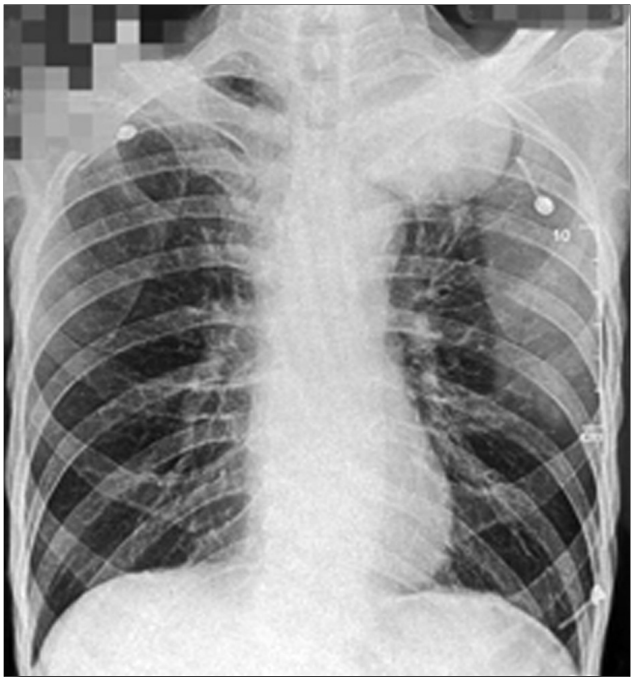

Figure 1 - Chest radiography shows left apical lung opacity

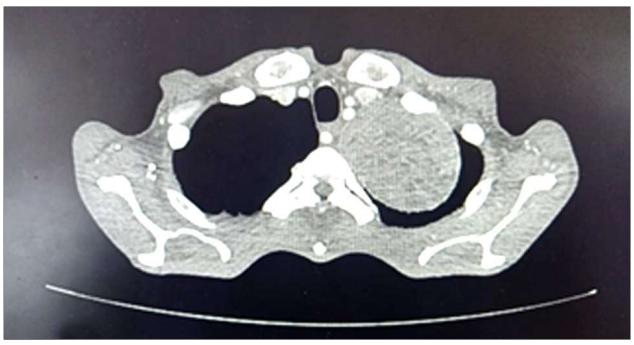

Figure 2 - CT Thorax; Shows left apical pleural lesion

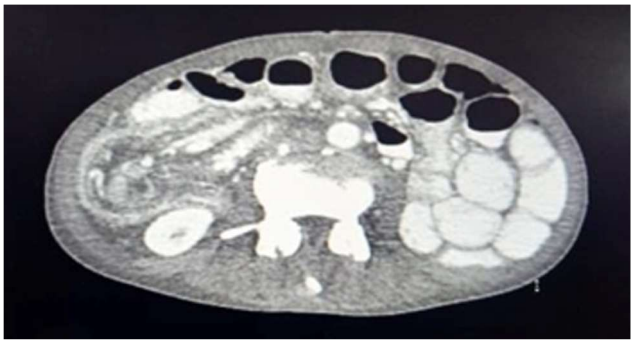

Figure 3 - CT abdomen shows ileocaecal intussusception with bowel obstruction

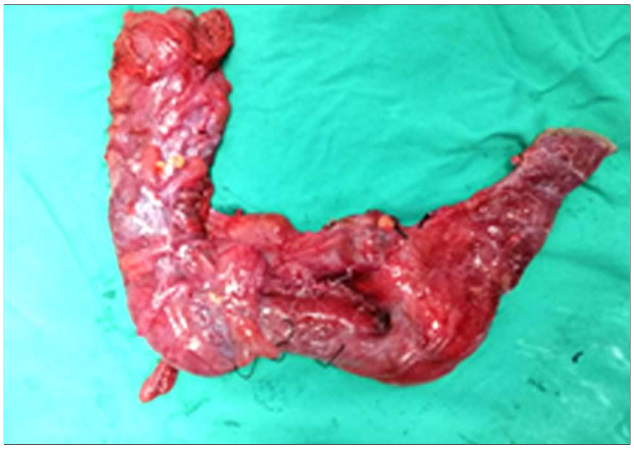

Figure 4 - Right Hemicolectomy specimen

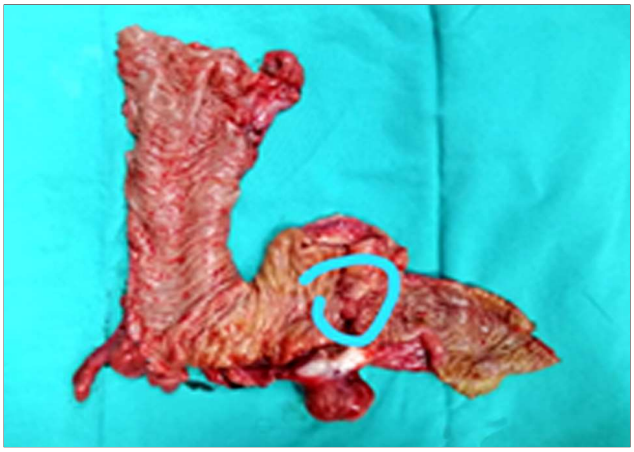

Figure 5 - Bivalved Right hemicolectomy specimen with intramural mass demonstrable

The definitive diagnosis of peritoneal mesothelioma depends on histologic and immuno-histochemical examinations. Laparoscopic biopsy of the peritoneum with immunohistochemistry helps to increase diagnostic accuracy. MPM is characterized by positive staining for the following immunohistochemical markers: epithelial membrane antigen (EMA), calretinin, Wilms' tumor-1 protein (WT-1), cytokeratin 5/6, antimesothelial cell antibody-1, HBME-1, mesothelin, and thrombomodulin. However none of the staining are specific for MPM (5).

The reported metastatic sites of MPM include the liver, lung, heart, brain, thyroid, adrenals, kidneys, pancreas, bone, soft tissue, skin, and lymph nodes.

CONCLUSION

Malignant mesothelioma is a rare entity, the vast majority of which arise from the pleura. The challenge of this rare malignancy lies on its nonspecific and varied presentation was the cause of major delayed in diagnosis and treatment. Adult intussusception is rare compared to that in children however subtle complaint from the patient can come to early diagnosis. Clinician should always be vigilant to consider intussusception in adult when making diagnosis as laparotomy is the main treatment approach.

Conflict of interest

The authors declare that none of conflict in interest related to this article.

Ethical approval

All the image and source of this article have been consented by either the patients and the institution.

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