TTTLE: MALIGNANT PAPILLARY PERITONEAL MESOTHELIOMA: CLINICAL APPEARANCES AS A CLUE TO DIAGNOSIS

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ABSTRACT:

We present a case of a middle-aged man with peritoneal mesothelioma due to asbestos exposure which was missed at a first laparotomy. Peritoneal mesothelioma is a well described disease, however there is little or no information on the clinical presenting features, along with the gross appearance and cardinal features seen grossly at laparotomy hence making it easy to miss for the unaware Surgeon. Our aim is to increase awareness of the cardinal features of this rare disease to the diagnosing clinician, so reducing diagnostic errors and delays in treatment for these patients.

CASE REPORT:

A 49-year-old man of African descent presented with a 3 month history of weight loss, anorexia, abdominal distention and general signs of cachexia and ascites. He had presented one year prior to this with a diagnosis of intestinal obstruction and underwent laparotomy. Adhesions were found without obvious obstruction, and adhesiolysis done; no biopsy was taken. Because of progressive weight loss and anorexia, he was investigated with upper and lower gastrointestinal endoscopy as well as a Computed Tomography (CT) Scan of the abdomen. There were no positive findings except for some free fluid in the peritoneal cavity and mild thickening of the gut wall and mesentery diffusely [Figure 1].

At subsequent admission, a detailed social history revealed that he was exposed to asbestos between the ages of 23 to 29 where he worked in a pipe-insulating factory. A CT scan illustrated thickened gut wall and mesentery with the presence of ascites again [Figure 2]. Haematological investigations were all normal. An exploratory laparotomy revealed **widespread nodular thickening of the visceral peritoneum with a striking diffusely erythematous appearance [Figure 3].** Peritoneal biopsy histology showed this to be a malignant papillary peritoneal mesothelioma.

DISCUSSION:

Malignant peritoneal mesothelioma is a rare condition resulting most commonly from exposure to asbestos. The neoplasm manifests approximately 20 or more years after the initial exposure [1]. Pathologically, patients present with tumours of the lung pleura and peritoneum, and, less frequently, of the pericardium and tunica vaginalis [1]. Owing to the rarity and aggressive nature of this disease, correct diagnosis is often delayed, and treatment is often palliative.

Peritoneal mesothelioma accounts for 20-33% of mesotheliomas, and histologically, these may be divided into 3 basic forms: epithelioid (most common), sarcomatoid, and biphasic (mixed). Papillary peritoneal mesothelioma is a subdivison of the epithelioid form.[2]

Clinically, this condition may present with abdominal pain, abdominal distension, ascites, weight loss and pyrexia of unknown origin [3]. The latter is a rare presentation of this condition.

Upon consideration of peritoneal mesothelioma in the differential diagnosis, the medical practitioner should proceed with the following investigations. A plain chest radiograph may show signs of asbestos in the lung: small opacities in the lower lung fields, with or without pleural thickening or effusion, indicative of pleural mesothelioma [4]. Abdominal CT scan examination may show the presence of ascitic fluid and peritoneal thickening [5] and immunostaining can be done with caritenin on ascitic fluid. This has significantly increased the accuracy of diagnosis[6].

At laparotomy, gross examination of the peritoneum may also be suggestive of the condition, that is, the widespread nodular thickening of the visceral peritoneum with a striking diffusely erythematous appearance [Figure 3], which can be later confirmed by biopsy and histological examination.

Once the diagnosis is confirmed by histology, multidisciplinary management produces the best outcome for the patient [7]. As mentioned earlier, prognosis is poor, with a survival-time of approximately 2 years from diagnosis. Despite this, a potential cure has been described in the literature - the emphasis of which is an early diagnosis, coupled with definitive local and regional treatment.

Treatment interventions include operative cytoreduction, followed by heated intraperitoneal chemotherapy, intraoperatively with doxorubicin and cisplastin (8). Early postoperative and adjuvant therapy is also done with paclitaxel. Assessments of these interventions are done at a second look operative cytoreduction [9].

This case illustrates the vague clinical presentation of peritoneal mesothelioma where the difficulty of the diagnosis is a result of its rarity. Despite this fact, the patient presented with the most common symptoms of this condition.

From the patient's history, occupational exposure to asbestos was a critical factor in the diagnosis. Furthermore, to the Surgeon who performed the laparotomy a year prior to presentation, the appearance and examination of the peritoneum may have played a crucial role in early detection.
Consequently, we wish to highlight the clinical gross appearance of this rare condition for the unweary clinician as **widespread fine nodular thickening of the visceral peritoneum with a striking diffusely erythematous appearance.** In contrast, other differentials for this condition could present as follows: tuberculosis may present as ileo-caecal inflammation; carcinomatosis appears as hard white nodules with the intervening peritoneum having normal appearance; and endometriosis of the peritoneum/omentum, characterized by hemorrhagic, reddish brown or blue nodules or cysts on the peritoneal surfaces [10].

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