A Rare Case of Benign Multicystic Peritoneal Mesothelioma: A Clinical Dilemma

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Abstract A middle aged housewife presented with an anterior abdominal wall mass which was slowly growing over a period of 1 years over the midline scar of previous caesarean section with cystic degeneration in a part of the tumor. Fine needle aspiration cytology revealed a papillary serous cystadenoma. At exploratory laparotomy tumor was seen arising from the ventral surface of the parietal peritoneum with normal viscera, omentum and ovaries. The pathologist reported the tumor as Benign Multicystic Peritoneal Mesothelioma. It is a rare but clinically favourable neoplasm with wide excision as the definitive treatment. Of the 130 cases reported in the literature, it has the least incidence in the Indian Subcontinent.

Keywords Peritoneal tumors mesothelial cysts · Benign multicystic peritoneal mesotheliomas · Implantation fibroid · Desmoid tumor · Peritoneal carcinoma

Introduction

Benign multicystic peritoneal mesothelioma is a rare primary peritoneal tumor with only 153 cases reported in

world literature. It is a rare syndrome of recurrent peritoneal mesothelial cysts consisting of multiloculated inclusion cysts occurring predominantly in young females. It is associated with prolonged survival despite the bulky disease and no deaths have been attributed to this disease.

Case Report

A middle aged housewife presented with slowly growing nodular swelling in the infraumbilical region adjacent to previous classical caesarean section scar since 4 years with sudden increase in size since 1 month and associated with pain. She had no history of trauma, fever, altered bowel habits, urinary complaints or weight loss. A known hypertensive with no other co-morbid conditions, she had undergone classical caesarean section 20 years ago and vaginal hysterectomy for uterine prolapse 5 years ago. General physical examination showed pallor and Portwine stain hemangioma over the right side of face and neck. Abdominal examination revealed a bilobed firm mass with cystic degeneration adherent to the previous caesarean section scar in the umbilical and hypogastric region extending into the right and left iliac fossa, on either side of midline which was freely mobile in the transverse direction and was located in the anterior abdominal wall in the intramuscular plane (Fig. 1). The mass was palpable on vaginal examination in the anterior abdominal wall with no intra abdominal extent. Digital rectal examination and other systemic examinations were normal.

A working diagnosis of implantation fibroid was kept in view of her previous obstetric surgeries and a differential diagnosis of a desmoid tumor or primary soft tissue

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Fig. 1 Gross appearance of the neoplasm

sarcoma was also entertained. Fine needle aspiration cytology from the firm mass reported it as papillary serous cystadenoma. Blood parameters were within normal limits. Patient was taken up for exploratory laparotomy with excision of the skin over the cystic mass and the scar was excised. Intraoperatively the tumor was found to be arising from the ventral surface of the parietal peritoneum with the rectus abdominis pushed laterally and no evidence of any tumor infiltration within the peritoneal cavity (Fig. 2). Both the ovaries were normal and the tumor was excised with a sheaf of parietal peritoneum. Cut section of the tumor measuring 12.5×12 cm was multiloculated cysts with serous fluid (Fig. 3). Abdomen was closed primarily and patient was discharged on tenth postoperative day after suture removal. The histopathology report suggested a benign multicystic peritoneal mesothelioma with clear margins.

Fig. 2 Intra-operative view with nascent intra-abdominal cavity

Fig. 3 Cut section of the tumor

Discussion

The anterior abdominal wall and the peritoneum develop from the lateral plate of the intraembryonic mesoderm [1] which fold over to form four unique folds, all of which coalesce in the midline at the umbilicus. A number of primary cancers have been described to originate from the peritoneum, which include primary peritoneal cancers, malignant mesothelioma, benign papillary mesothelioma, desmoplastic small round cell tumors, peritoneal angiosarcoma, leiomyomatosis peritonealis disseminata and peritoneal hemangiomatosis.

Peritoneal mesothelioma has an incidence of 2 cases per 1 million population per year and has been classified as benign (circumscribed, firm, papillary), borderline malignant, malignant (covers surface of mesentery, common in males and usually obliterates the entire peritoneal cavity) and a rare entity; benign cystic peritoneal mesothelioma [2]. Mesotheliomas, both pleural and peritoneal are associated with exposure to asbestos, even for a brief period of one to two years, after 30–35 years of exposure. Approximately 50% of peritoneal mesotheliomas metastasize to the pleura and approximately 20% of pleural mesotheliomas metastasize to peritoneum. Asbestos related diseases have been encountered in individuals with moderate exposure, such as the painter or electrician who work alongside the insulation worker in a shipyard or the house wife who does no more than shake out and wash her husband's work clothes [3].

Benign cystic peritoneal mesothelioma is a rare syndrome of recurrent peritoneal mesothelial cysts consisting of multiloculated inclusion cysts which by some authors are classified as reactive proliferation of the peritoneal cells rather than as a malignant lesion. Only 130 cases have been

reported in the world literature. It afflicts females more than males in their younger years of life and is associated with prolonged survival despite bulky nature of the disease [4]. Magnetic resonance imaging is the investigation of choice, rather than CT or ultrasound, in patients suspected with peritoneal mesotheliomas. Surgical excision is the best palliation as benign cystic mesothelioma tends to recur even with aggressive surgical removal; however, among recorded cases, no deaths have been attributable to this process.

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