

## *Case Report :*

# Peritoneal mesothelioma

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Primary mesotheliomas are rare tumours derived from the mesothelial cells of major serous cavities. They most commonly occur in the pleural cavity, but in recent years the incidence of peritoneal mesothelioma has been increasing. The prognosis for these tumours is generally poor, death normally occurring within one year of diagnosis, but can be improved by earlier diagnosis and aggressive management<sup>1</sup>.

The non-specific presentation, and confusion with other more common intra-abdominal neoplasms make early diagnosis difficult. Appropriate investigations together with a high index of suspicion are therefore important if early diagnosis is to be made. We present a case which illustrates many features typical of this condition and which highlights important aspects of its management.

### **CASE HISTORY:**

A 58 year old joiner presented with a history of abdominal pain, distension, weight loss and night sweats. He had a past history of asbestos exposure. On examination he was pale, with clinical signs of ascites. Haemoglobin was 10 g/dl, serum alkaline phosphatase 117 U/l and ESR 90 mm/hr. Ultrasonography confirmed ascites. Barium enema showed no abnormality in the large bowel. Computed tomography of the abdomen demonstrated peritoneal thickening with metastatic deposits in the greater omentum, but diagnostic peritoneal aspiration was uninformative. Tumour markers CEA and CA19-9 were normal. Diagnostic laparoscopy revealed blood stained ascitic fluid with gross thickening of the peritoneum, biopsy of which showed mesothelial proliferation in a papillary configuration with nuclear atypia, consistent with malignant mesothelioma. It was decided that neither chemotherapy nor surgical intervention beyond repeated aspiration was appropriate. The patient remains well five months following diagnosis having had several admissions for peritoneal drainage to provide symptomatic relief.

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**DISCUSSION**

Primary peritoneal mesothelioma is a rare tumour. It accounts for approximately 10% of all malignant mesotheliomas although some sources quote figures as high as 40%<sup>2</sup>. There is an increasing incidence in the United Kingdom<sup>3</sup>. Males are more commonly affected than females, the male/female ratio in the United Kingdom being 10 : 1<sup>4,5</sup>. When the condition arises in childhood it tends to follow a similar clinical pattern to that in the adult<sup>6</sup>. Asbestos exposure has been cited as a major factor in the development of the disease<sup>7</sup>, but a considerable period up to a mean of 44 years may elapse between exposure and diagnosis<sup>8</sup>.

Peritoneal mesothelioma often presents at an advanced stage with non-specific symptoms such as abdominal pain, weight loss, anorexia and abdominal distension. Rarely it has presented with small bowel obstruction, an "acute abdomen" or symptoms suggestive of testicular torsion<sup>9</sup>. The most common finding on examination is ascites, present in more than 95% of cases. The patient may be anaemic or more rarely have a metabolic upset due to ectopic hormone production<sup>10,11</sup>.

Most mesotheliomas have been diagnosed at autopsy, but increasing numbers are now diagnosed ante-mortem. A normal CEA level helps to exclude a diagnosis of intra-abdominal adenocarcinoma. Radiological abnormalities are non-specific; ultrasonography will reveal ascitic fluid and intra-abdominal masses, and computed tomography will demonstrate peritoneal thickening. Peritoneal fluid aspiration provides a cytological diagnosis but carries both a high false positive and false negative rate<sup>13</sup>. Until recently laparotomy offered the only sure method of diagnosis, but laparoscopy has now become invaluable and provides an opportunity for histological diagnosis and visual assessment of the extent of the disease process with relatively little patient upset.

Whitwell and Rawcliffe offered the first histological classification of mesotheliomas in 1971<sup>14</sup>. They described three histological subtypes, epithelial, diphasic, and fibrous. The majority of peritoneal mesotheliomas are of the epithelial form. Until recently the management of this tumour could do little to alter its bad prognosis. Surgical intervention may provide the diagnosis, but otherwise is limited to debulking the tumour and relieving bowel obstruction. Many chemotherapeutic regimes have been tried, the best results being from cisplatin and doxorubicin compounds<sup>15</sup>.

Peritoneal mesothelioma is a highly malignant condition. Its development is linked with asbestos exposure, which is relevant to the population of Northern Ireland with its high reliance on the shipbuilding industry in the past. Early diagnosis requires a high index of clinical suspicion and should be considered in patients presenting with ascites in whom serological and radiological investigations have proved uninformative.

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