

Diffuse malignant peritoneal mesothelioma in a 31-year-old patient - case report

M. Prorocic, M. Vasiljevic, S. Jankovic, O. Dzatic

University Clinic of Gynaecology and Obstetrics Narodni Front, Belgrade (Serbia)

Summary

This is a case report of a diffuse malignant peritoneal mesothelioma in a 31-year-old woman. The patient presented with pains in the small pelvis followed by abdominal distension. By pelvic ultrasonography a tumorous mass of cystic architecture was verified in the small pelvis. She was submitted to laparoscopy. The diagnosis of the disease was established by histopathological examination of the material sample taken during laparoscopy. The patient was subsequently submitted to laparotomy upon which peritonectomy, omentectomy and appendectomy were performed. Postoperative combined chemotherapy was given. The patient has been well since completion of the treatment.

Key words: Mesothelioma; Diffuse malignant mesothelioma; Peritoneum.

Introduction

Mesothelioma is a rare disease occurring with increasing incidence in workers exposed to asbestos for long periods of time. It affects the pleural, peritoneal, pericardial and testicular regions. Pleural mesotheliomas have been more frequently found than peritoneal ones. In the United States, pleural mesothelioma occurs in 10-30 cases per million whereas peritoneal mesothelioma occurs in 2.2 cases per million [1].

The most common clinical symptoms of peritoneal mesothelioma are abdominal pain, presence of an abdominal mass, increased abdominal circumference, abdominal distension, ascites, fever, weight loss, exhaustion, anaemia and digestive disorders [2].

In a small percent of cases, peritoneal mesothelioma is detected incidentally, by histological examination of a resected tissue sample in surgical patients. The disease prognosis is poor. In treatment, a combination of cytoreductive surgery with peritonectomy and intraoperative intraperitoneal chemotherapy is most frequently used [3]. Postoperative intraperitoneal chemotherapy, radiotherapy and adjuvant therapy such as immunotherapy and gene therapy are also used.

Case Report

A case of diffuse malignant peritoneal mesothelioma in a 31-year-old infertile patient is presented. In 2004 the patient was operated on for a uterine myoma.

Myomectomy with peritoneal biopsy was performed since the peritoneum contained minute cystic lesions 1-5 mm in size. The histological finding revealed multicystic benign peritoneal mesothelioma. In December 2005 the patient experienced pain in the small pelvis followed by abdominal distension. By pelvic ultrasonography a septated cystic tumefaction was found in the Douglas's cul-de-sac, 60 x 45 x 70 mm in size. Ascitic fluid was present in the abdominal cavity. Computed tomogra-

phy (CT) of the abdomen and small pelvis revealed a retrouterine bilocular cystic formation with the presence of ascitic fluid. No enlarged intraperitoneal pelvic lymph nodes were found. CA125 serum levels were 13.2 IU/l. Laboratory findings were normal. The patient was submitted to laparoscopy. Multifocal cystic formations 5-10 mm in size were found in the parietal peritoneum, omentum, mesentery and colon. In the Douglas cul-de-sac, a bilocular cystic formation was observed which was excised. Biopsies of the peritoneum and omentum were performed and ascitic fluid was taken for cytological analysis. The histological and immunohistochemical findings corresponded to diffuse malignant peritoneal mesothelioma. The histological finding of epithelial diffuse malignant mesothelioma of tubulopapillary type is presented in Figure 1. Cytological analysis showed the presence of multiple atypic mesothelial cells. The patient underwent exploratory laparotomy in January 2006. Peritonectomy, omentectomy and appendectomy were performed. No hepatic, pancreatic, gastric or intestinal lesions were found. The patient was given postoperative combined 6-course chemotherapy with carboplatin plus paclitaxel. Since treatment the patient has been well.

Discussion

Malignant peritoneal mesothelioma is a rare disease with an annual incidence of approximately one case per 1,000 000 people. Peritoneal mesothelioma accounts for one fifth to one third of the total number of cases of diagnosed mesotheliomas [4]. The tumour occurs most frequently in persons older than 45 years of age. Multicystic mesothelioma appears predominantly in persons of younger and middle age. In most cases, clinical symptoms of the disease include abdominal pain, ascites, abdominal distension, the presence of abdominal mass and weight loss [2]. The diagnosis is most often established by histological examination of the resected tissue sample during surgery. For an accurate diagnosis laparoscopy is of great importance since it enables direct tumour biopsy. Ultrasonographic examination and CT of the abdomen are of assistance, as well as analysis of the ascitic fluid.

Revised manuscript accepted for publication November 13, 2006

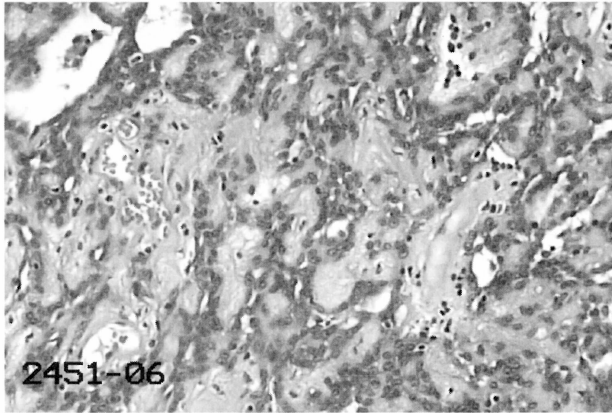


Figure 1. — Epithelial diffuse malignant papillary mesothelioma.

Malignant mesothelioma may develop at any serous bodily surface, but most frequently it affects the pleural, pericardial, peritoneal and testicular regions. In the literature, a case of concomitant malignant mesothelioma of the pleura, peritoneum and tunica vaginalis testis has been described [5]. Diffuse malignant mesothelioma is histologically subclassified into the following types: epithelial, sarcomatoid, biphasic, and undifferentiated [6]. Around 75% of diffuse malignant peritoneal mesotheliomas are of the epithelial type. Mesotheliomas with clear cell morphology are rare and only a few individual case reports have been documented in the literature [7]. Deciduous mesothelioma is the designation given to an unusual morphologic variant of epithelial mesothelioma. Immunohistochemistry has an important role in confirming the diagnosis. Calretinin and Ber-EP4 are useful discriminant markers in distinguishing peritoneal mesothelioma from serous papillary ovarian and peritoneal carcinoma in women [8]. Differential diagnoses include lymphangioma, ovarian cystadenoma or cystade-

nocarcinoma, endometriosis, pseudomyxoma peritonei or teratoma. Treatment of mesothelioma includes radical surgery combined with intraoperative and postoperative chemotherapy [3], as well as radiotherapy and adjuvant therapy. The disease prognosis is poor. Survival of patients with malignant peritoneal mesothelioma ranges from one month to over 14 years [1, 9].

References

- [1] Loggie B.W.: "Malignant peritoneal mesothelioma". *Curr. Treat. Options Oncol.*, 2001, 2, 395.
- [2] de Pangher Manzini V.: "Malignant peritoneal mesothelioma". *Tumori*, 2005, 91, 1.
- [3] Sugarbaker P.H., Yan T.D., Stuart O.A., Yoo D.: "Comprehensive management of diffuse malignant peritoneal mesothelioma". *Eur. J. Surg. Oncol.*, 2006, 32, 686.
- [4] Sugarbaker P.H., Acherman Y.I., Gonzalez-Moreno S., Ortega-Perez G., Stuart O.A., Marchettini P. *et al.*: "Diagnosis and treatment of peritoneal mesothelioma: The Washington Cancer Institute experience". *Semin. Oncol.*, 2002, 29, 51.
- [5] Ascoli V., Facciolo F., Rahimi S., Scalzo C.C., Nardi F.: "Concomitant malignant mesothelioma of the pleura, peritoneum, and tunica vaginalis testis". *Diagn. Cytopathol.*, 1996, 14, 243.
- [6] Battifora H., McCaughey W.T.E.: "Tumors of the serosal membranes". In: *Atlas of Tumor Pathology*, third series, fascicle 15, Washington, DC: Armed Forces Institute of Pathology, 1995.
- [7] Ordóñez N.G.: "The immunohistochemical diagnosis of mesothelioma: a comparative study of epitheloid mesothelioma and lung adenocarcinoma". *Am. J. Surg. Pathol.*, 2003, 27, 1031.
- [8] Attanoos R.L., Webb R., Dojcinov S.D., Gibbs A.R.: "Value of mesothelial and epithelial antibodies in distinguishing diffuse peritoneal mesothelioma in females from serous papillary carcinoma of the ovary and peritoneum". *Histopathology*, 2002, 40, 237.
- [9] Bani-Hani K.E., Gharaibeh K.A.: "Malignant peritoneal mesothelioma". *J. Surg. Oncol.*, 2005, 91, 17.

Address reprint requests to:
V. MLADENKO, M.D., Ph.D.
Medical Faculty of Belgrade
University Clinic of Gynaecology
and Obstetrics Narodni Front
Omladinskih Brigada Street 7V
11000 Belgrade (Serbia)