A rare case of malignant peritoneal mesothelioma found before 30 years of age without previous exposure to asbestos

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INTRODUCTION

Malignant peritoneal mesothelioma (MPM) is a very rare disease that occurs about 250 ~ 500 cases a year in the United States. The etiology of mesothelioma has been reported to be associated with industrial pollutants and mineral exposures. The common carcinogen is asbestos, with approximately 80% of cases linked to asbestos exposure. The most common initial complaint is abdominal distension, and the second is nonspecific abdominal pain. Patients often also complain of early satiety, weight loss, and nausea, fever of unknown origin. Because of the vague and nonspecific nature of its symptoms, imaging findings, and serum markers, MPM is difficult to diagnose. Due to this delay in patient presentation and diagnosis, it is not surprising that almost all cases of MPM have some spread throughout the abdominal cavity. Here, we are going to report a case of MPM found before 30 years of age without previous exposure to asbestos.

CASE

A 27-year-old Russian woman (gravida 0, para 0) was presented to our hospital with abdomen distension and weight loss of 10 kg for 2 months. She had no underlying disease and had never been exposed to asbestos before. In the blood test results, the CA-125 is rising a little as 77 U/mL the other results were normal ranged. In initial APCT, a large amount of ascites was seen in the pelvic cavity and multiple growing papillary lesions with solid portion were observed around both adnexa also enhanced nodules were observed along some peritoneum (Fig. 1-a). Chest CT showed pleural effusion in both lungs and no other specific findings. PET-CT showed hypermetabolic peritoneal malignancy with large amounts of ascites and reactive lymphadenopathy in the left supraclavicular area (Fig. 1-b). The cytologic examinations of the ascites and pleural fluid revealed consistent with malignant mesothelioma.

She was underwent TAH, BSO, BPLND, para aortic LND, peritonectomy, excision of colon wall mass. On pathological examination, the peritoneum showed MPM with biphasic type (Fig 2-a) and the other tissues revealed as MPM, metastatic lesion. In immuno-histochemical staining, tumor cells were positive for anti-mesothelial antibody, vimentin, cytokeratin, calretinin (Fig 2-b).

Three weeks after surgery, she started Alimta-cisplan chemotherapy. When she finished the five cycles of chemotherapy, she complained of severe abdominal pain. By simple abdominal X-ray and APCT, a small bowel obstruction was observed. She underwent surgery to resect a portion of the small intestine.

Follow-up chest CT observed newly developed multiple lymph nodes in left supraclavicular, both mediastinal and axilla area. We changed the chemotherapy regimen with mitomycin-vinblastine-cisplatin and completed up to six cycles. However, lymph node, lung and hepatic metastasis persisted. Moreover, she was no longer able to undergo chemotherapy because of a pancytopenia. Eventually she died 18 months after the cancer diagnosis.

Figure 1-a

Figure 1-b

Figure 2-a

Figure 2-b

DISCUSSION

This case reports that diffuse MPM can develop in those younger than 30-old without history of asbestos exposure. Until now, the clinical characters, biologic and prognostic factor and treatment are unclear. Further research is needed to determine the risk factors for diffuse MPM, biphasic type because the disease is rapid progress and the prognosis is very poor so early diagnosis is important.