A Case Of Spontaneous Resolution Of Malignant Peritoneal Mesothelioma

Spogmai Saeed Khan, MD; Abdul Nadir, MD; Idrees Suliman, MD; Lyndie Wilkins Parker, DO
[1]Midwestern University, [2]Mountain Vista Medical Center

Introduction

Malignant peritoneal mesothelioma (MPM) is an aggressive tumor of the peritoneum. Seven cases have been reported describing spontaneous regression of mesothelioma, which has been hypothesized to be associated with an immunologic mechanism.

Case Presentation

A 44-year-old female with a history of coccidioidomycosis (on ketoconazole), severe plaque psoriasis (h/o treatment with adalimumab and then secukinumab), cirrhosis secondary to NASH, and DILI presented with decompensated cirrhosis with MELD score of 30. She was treated with furosemide and spironolactone with significant clinical improvement, MELD improving to 18. Attempted orthotopic liver transplant on 01/21 found extensive peritoneal mesothelioma on laparotomy (Figure 1), thus the liver transplant was aborted. Immunohistochemistry with cytokeratin 7+, calretinin+, WT1+, and p53 reactivity confirmed the diagnosis (Figure 2) of Malignant Peritoneal Mesothelioma, epithelioid type. A Tumor Board Review rendered the patient a poor candidate for heated intraperitoneal chemotherapy (HIPEC) due to underlying comorbidities. The patient had multiple episodes of a psoriatic flare which was managed only with prednisone 20mg daily.

A PET scan performed on 06/22 revealed mild FDG uptake in sub-centimeter bilateral axillary and pelvic LN, cirrhotic liver morphology, and splenomegaly. Increased marrow uptake in axial and proximal appendicular skeleton seen in anemia. No FDG uptake was noted in the peritoneal tumor, excluding the pelvic lymph node. The patient denied the use of alternative medicine, except for the Atkins diet and a healthy lifestyle. She is continued on maintenance therapy with close surveillance and regular follow-ups.

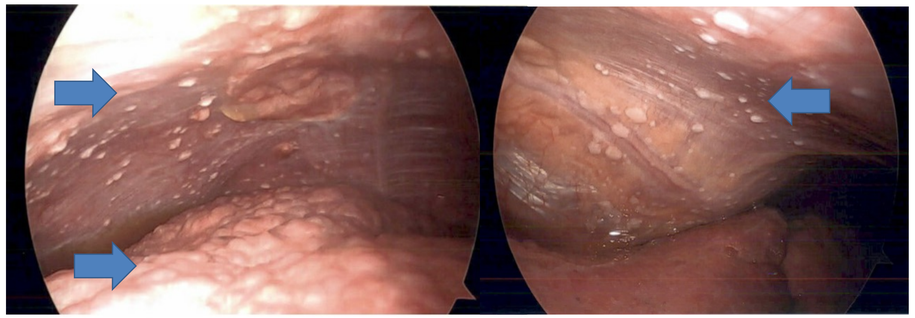

Figure 1. Diffuse peritoneal mesothelioma visualized on laparotomy

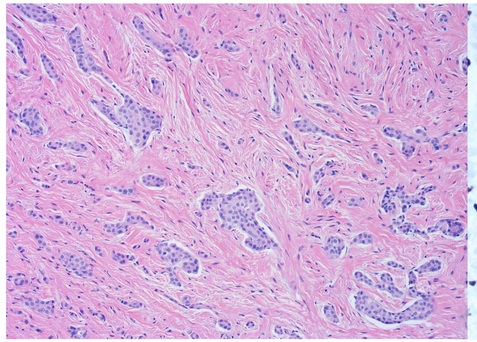

Figure2. Histological findings of the peritoneal mass with hematoxylin and eosin staining. Atypical epithelial-like cells formed a glandular duct and invasive proliferation.

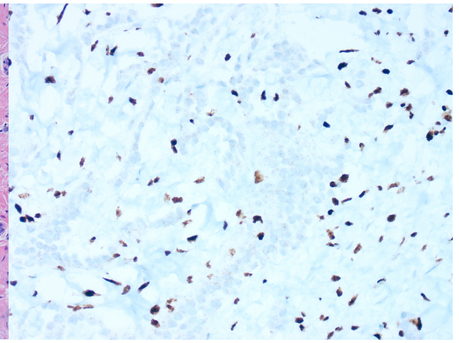

Figure3. BAP1 shows loss of nuclear staining in a subset of mesothelial cells.

Discussion

MPM with spontaneous regression is a rare occurrence. The first case of a spontaneous resolution of mesothelioma was reported in 1997.[1] A total of 7 cases of spontaneous resolution of pleural mesothelioma have been reported however our case is the first case of peritoneal mesothelioma regression.[1-7] The mechanism of these spontaneous regressions is hypothesized to be associated with immunological mechanisms. Five out of the 7 cases correlated the regression to the immunological mechanism.[2-7] We present our case of spontaneous MPM regression, in the context of multiple psoriatic flares managed with prednisone 20mg and lifestyle modification, similar to Moser's case associated with a new onset of inflammatory arthropathy which was managed with oral prednisone therapy.[6] Trials with immunomodulatory agents e.g. CTLA-4 inhibitor tremelimumab have shown promising outcomes.[8]

Conclusions

Spontaneous regression of mesothelioma is hypothesized to be associated with immunologic response. Further studies are required to better understand the immunogenic mechanism and to formulate more targeted therapies.

Contact

Spogmai Saeed Khan, MD
Midwestern University
Email: spogmai.khan@steward.org

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