Chylous Acid that Develops After COVID-19 Infection in A Patient with Ovarian Cancer

Over Kanserli Bir Hastada COVID-19 Enfeksiyonu Sonrası Gelişen Şilöz Asit

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ABSTRACT

One of the most common symptoms of ovarian cancer is ascites and can be controlled by surgery and chemotherapy. Acid palliation is provided with paracentesis and diuretic therapy in treatment-resistant patients. Chylous acid is rarely detected in the course of ovarian cancer and it mostly develops due to lymphatic system damage due to surgery or radiotherapy. Chylous acid due to disease progression is an extremely rare phenomenon. A 71-year-old woman with metastatic ovarian cancer presented with abdominal distension and milky acid. The patient has not received chemotherapy for about 3 months due to COVID-19 infection. After the infectious causes were excluded, the patient was started second line therapy and it was observed that chylous acid regressed. When chylous acid is detected in a cancer patient, infectious causes should be excluded quickly and systemic anti-cancer treatment should be initiated.

Keywords: Chylous Acid, ascites, chemotherapy, COVID-19, Sars-COV2 infection

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ÖZET

Over kanserinin en yaygın semptomlarından biri asittir, Tedaviye dirençli hastalarda parasentez ve diüretik tedavisi ile asit palyasyonu sağlanmaktadır. Şilöz asit over kanseri seyrinde nadiren saptanır ve çoğunlukla cerrahi veya radyoterapiye bağlı lenfatik sistem hasarına bağlı olarak gelişir. Hastalık progresyonuna sekonder gelişen şilöz asit nadir bir bulgudur. 71 yaşında metastatik over kanserli kadın hasta karında şişkinlik ve beyaz renkte asit ile başvurdu. Hastanın COVID-19 enfeksiyonu nedeniyle yaklaşık 3 aydır kemoterapi alamadığı saptandı. Enfeksiyöz nedenler dışlandıktan, asit nedeninin hastalık progresyonu olabileceği düşünüldü ve hastaya ikinci basamak tedaviye başlandı. Kemoterapi sonrası şilöz asidin gerilediği gözlendi. Bir kanser hastasında şilöz asit saptandığında enfeksiyöz nedenler hızla dışlanmalı ve progresyona bağlı olduğu belirlenmesi halinde sistemik anti-kanser tedavisine başlanmalıdır.

Anahtar Sözcükler: Şilöz Asit, asit, kemoterapi, COVID-19, Sars-COV2 enfeksiyonu

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INTRODUCTION

Common symptoms in patients with ovarian cancer are abdominal pain, bloating, and acid (1). Acid significantly affects patient comfort and symptom control is provided with paracentesis as well as diuretic therapy in resistant acids. In addition, chylous acid may develop very rarely during treatment. Chylous acid is a fluid rich in triglycerides and can develop mainly due to blockage or damage to the lymphatic system(2). Although many cases of ovarian cancer secondary to surgical injuries have been reported in patients with ovarian cancer, cases of ovarian cancer due to progression of malignancy are extremely rare (3-5).

In this case report, we present a patient who was diagnosed with COVID-19 infection twice in three months while receiving treatment for metastatic ovarian cancer and therefore could not receive systemic anti-cancer treatment for a long time and was diagnosed with chylous acid.

CASE REPORT

A 71-year-old patient with ovarian cancer was admitted to the outpatient clinic due to grade 3 ascites. The patient reported being diagnosed with metastatic ovarian cancer eight months ago at which time she received six cycles of carboplatin-paclitaxel combination chemotherapy. The patient had a partial response after the treatment and had not been receiving chemotherapy for the last three months due to two Coronavirus 2019 (COVID-19) infections. Upon admission, approximately 1000 cc of ascites fluid was drained daily via an intraperitoneal pigtail catheter. She complained that the ascitic fluid did not come from the catheter although her abdominal distension had increased for the last three days. It was found that the peritoneal catheter was obstructed after which the catheter was withdrawn. In paracentesis, an increase in the density of the ascitic fluid and a milky color were observed (Fig. A). The triglyceride level obtained from the ascitic fluid was measured as 428 mg/dL. The patient was diagnosed with chylous acid because the acidic fluid had high triglyceride levels and milky in color. It was thought that chylous acid developed secondary to malignancy progression.

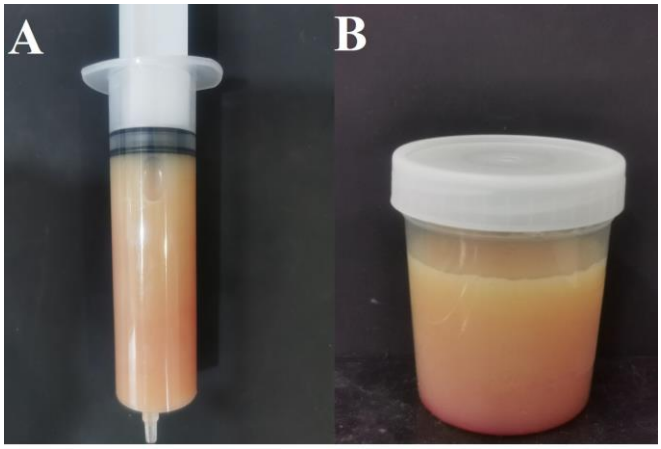

Figure I. An increase in the density of the paracentesis fluid and milky coluor are seen.

The patient had abdominal pain and nausea during hospitalization. Based on the microscopic examination from the acitic fluid in conjunction with the triglyceride level, no bacteria were detected; however, diffuse erythrocytes were detected. In cell counting chamber, 0.256 x10^3/µL polymorphonuclear neurophils were seen in each area. The serum acid albumin gradient was calculated as 1.4. Empirical cefotaxime treatment was initiated based on suspicion of intra-abdominal infection. Due to the fact that our patient had not been treated for the last three months, the development of chylous acid was thought to be associated with the progression of the disease in the foreground. Computed tomography (CT) imaging of the patient revealed increased peritoneal involvement, increased ascites and newly developed liver metastasis (Fig. B).

Gemcitabin–cisplatin–bevacizumab treatment was initiated upon diagnosis of platinum-resistant ovarian cancer in the patient, whose Ca-125 level had increased 2-fold. After the second course of chemotherapy, the patient's need for paracentesis decreased and the acid color became serous.

Ascites decreased significantly in the third month of treatment, and a partial response was detected on CT.

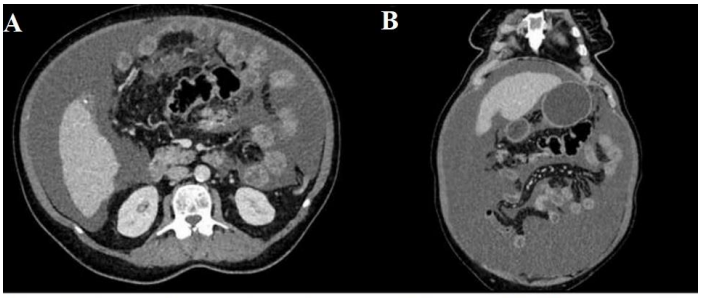

Figure II. Huge ascites was detected on computed tomography. The amount of acid is seen in axial (A) and coronal sections (B).

DISCUSSION

Chilosic acid secondary to gynecological tumor is a rare phenomenon, and in this case, we reported a patient who could not receive cancer treatment due to COVID-19 infection. After chemotherapy, the patient's chylous acid regressed and the need for paracentesis decreased.

Chylous acid is a peritoneal fluid that is rich in triglycerides and resembles milk. Triglyceride levels are important in defining chylous acid and are particularly above 200 mg / dl. However, some authors accept a chylous acid threshold value of 110 mg/dl (6). Chylous acid may occur as a result of congenital defects of the lymphatic system in addition to inflammatory events, malignancy, surgical interventions, tumoral infiltration, radiotherapy, and/or trauma. In a systematic study examining the causes of the presence of atraumatic chylous acid, the most common causes in adults were identified as lymphatic anomalies (32%), malignancy (17%), cirrhosis (11%), mycobacterial infection (15%), and other causes. In the same study, the most common presenting symptom was identified as abdominal distension (81%) (7). Chylous acid incidence may be increasing due to longer survival of cancer patients and more aggressive abdominal and cardiothoracic interventions.

The first step in treatment of chylous acid is treatment of the underlying disease In addition, a high-protein and low-fat diet with medium-chain triglycerides could be a reasonable supportive therapy. Case reports suggest that both somatostatin and subcutaneous octreotide are also effective in treating chylous ascites (8). It was thought that our patient's ovarian cancer progressed and caused chylous acid. The pathophysiology of chylous acid that develops in cancer patients is obstruction and destruction of pelvic lymph nodes due to malignancy. The decrease in the amount of acid in the patient after chemotherapy and diet support confirmed our hypothesis. In addition, tuberculosis or parasitic infections involving the lymphatic system should be kept in mind in patients who are receiving chemotherapy or who are immunosuppressive.

In conclusion, chylous acid associated with malignancy is a rare type of acid. After infectious causes are quickly ruled out, aggressive systemic anti-cancer therapy should be initiated. Until the effect of anti-cancer treatment is seen, it is very important to provide symptom control with paracentesis and to provide nutritional support with high protein.

Conflict of interest

No conflict of interest was declared by the author.

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