

Chylous Ascites in Gynaecology Malignancy

Deri Edianto¹, Isnayu Jurimal¹ and Muhammad Rizki Yaznil¹

¹Department of Obstetrics and Gynecology, Universitas Sumatera Utara, Medan, Indonesia

Keywords: Chylous Ascites, Lymph Nodes, Malignancy, Paracentesis.

Abstract: Chylous ascites is ascites caused by leakage of lymphatic fluid which contain lipid to peritoneal cavity and a rare malignancy complication. Chylous ascites was reported in 1 from 2000 cases in 20 years. We report a 59 years old housewife, para 3, who was admitted to emergency unit Adam Malik General Hospital with abdominal enlargement. She has been experiencing this in the last 2 months ago. The signs and symptoms were nausea, vomiting, loss of appetite. She was diagnosed with carcinoma of the cervix stage II B on October 2016 and received chemoradiation (external beam radiotherapy 28x, chemotherapy 6x, brachytherapy 6x) in other hospital. The general findings were within normal limit. BMI was 15.82 kg/m² (underweight). On physical examination, head, neck, and chest within normal findings. Abdominal findings were enlargement, distension, shifting dullness, no mass was palpable. The cervix looks fibrotic and no residual mass visible. Laboratory findings are thrombocytosis (629.000/mm³), hypoalbuminemia (2,7 g/dL), blood urea was within normal value, creatinine was 1,58 mg/dL. Electrolyte values were within normal except hyponatremia (132 mEq/L). Chest X-ray examination was atelectasis at right middle lung. CT scan finding suggested metastatic process in the liver. The patient was diagnosed with cervical cancer II B post chemoradiotherapy metastasize to the liver, massive ascites and hypoalbuminemia. Abdominal Paracentesis findings were 4000 ml of white milky fluid and the levels of triglycerides in the ascitic content were 1057 mg/dl. As a conclusion, chylous ascites is very rare with malignancy and cirrhosis are the main causes. Diagnosis of chylous ascites is paracentesis with increased triglyceride levels and the management mainly conservative.

1 INTRODUCTION

Ascites is a collection of fluid in peritoneum space. This condition happens when there is excessive fluid production and inadequate absorption. Ascites is one of many malignancy complications. Four in five patients with malignancy ascites were caused by ovarian cancer, gastrointestinal, breast, pulmonary, uterine, and cervical cancer. Patients with malignant ascites have poor prognosis with life expectancy only 1-4 months and five years survival rate is 48,7% (Damodar and Rao, 2011)

Chylous ascites is caused by leakage of lymphatic fluid that contains lipid to peritoneal space. Chylous ascites can be caused by surgical trauma to lymphatic vessels, tuberculosis, cirrhosis, lymphoma, radiotherapy, and direct lymphatic metastases. Reported incidence of chylous ascites is 1 from 20.000 cases in 20 years. The incidence

predicted to be increasing because of increasing life expectancy in cancer patients and increasing aggressive cardiothoracic and abdominal intervention (surgery). Al-Busafi found that chylous ascites incident were 1 in 11.589 cases in 2013.(Al-Busafi *et al.*, 2014) So it is still a very rare complication of malignancy or its treatments.

Treatment of chylous ascites is still controversial. It can be standard conservative treatment or surgery for unresponsive patients.(Solmaz *et al.*, 2015)

2 CASE REPORT

Mrs.N, 59 years old, P3A1, housewife, who was admitted to emergency unit Adam Malik general hospital on June 12th, 2017 with an abdominal enlargement. She has been experiencing this condition in the last 2 months. The signs and symptoms were nausea, vomiting, history loss of

appetite, history of weight loss. There were no abdominal pain, vaginal bleeding and discharge. She was diagnosed with carcinoma of the cervix stage II B on October 2016 and received chemoradiation (external beam radiotherapy 28x, chemotherapy 6x, brachytherapy 6x) in other hospital, last procedure in February 2017. Menarche at the age of 14 years old with regular 28 - 30 days cycle, lasting for 5 – 7 days. Menopause at 54 years old.

Vital sign was normal. BMI was 15.82 kg/m² (underweight). On physical examination, head, neck, and chest were normal. Abdominal were enlargement, distension, shifting dullness (+), no mass was palpable. The bowel sound was present and revealed normal. The inspection showed fibrotic cervix. In vaginal examination there were palpated fibrotic cervix, normal uterine size, no locoregional residual mass.

Full blood count was normal except thrombocytosis (629 000/mm³). Liver function test was normal. The patient was hypoalbuminemia with serum albumin level 2,7 g/dL. Blood urea was normal, creatinine was 1,58 mg/dL. Electrolyte values were normal except slight hyponatremia (132 mEq/L). Chest X-ray examination was plate-like atelectasis at right middle lung. CT scan findings were multiple metastatic nodule in the liver, bilateral pleural effusion and ascites, bilateral kidney atrophy, especially the left kidney.

Paracentesis findings were 4000 ml of white solid-fluid from ascitic patient (Figure 1). The patient was treated with intraperitoneal chemotherapy with cisplatin 100 mg in normal saline 2 litres. Cytologic result was metastatic carcinoma. Analysis of peritoneal fluid were in Table 1.



Figure 1: Chylous ascites

Table 1: Analysis of ascites fluid

Colour	Milky white		
Total protein	1.34	g/dl	Transudate (< 3gr/dl) Exudate (> 3gr/dl)
LDH	112	U/L	Transudate (< 200 U/L) Exudate (> 200 U/L)
Glucose	147	mg/dl	55-140
pH	8		7-8
WBC	0.343	10 ³ /uL	
RBC	0.002	10 ⁶ /uL	
MN cell	91.3	%	
PMN cell	8.7	%	
Total cholesterol	55	mg/dl	< 200
Triglyceride	1057	mg/dl	40-200
Albumin	0.5	g/dl	3.5-5.0

3 DISCUSSION

Chylous ascites is a collection of lymphatic fluid from peritoneal space with high triglycerides content more than 110 mg/dL. Lymphatic system consists of lymphatic fluid, lymphatic vessels, and bone marrow. Thoracic duct is a point where there is a transition and mixture of many chylomicrons and less lymphatic fluid. If lymphatic fluid is above cisterna chylous, it is called chylous and milky because it contains high triglyceride. If the fluid is located below the point of transition, it is known as lymphatic where the triglyceride level is minimal and it is clear or reddish.(Micha *et al.*, 2012; Al-Busafi *et al.*, 2014)

Three basic mechanisms of chylous ascites are primary fibrosis of lymphatic nodes caused by obstruction of lymphatic drainage from gut to chylous cisterna from sub serous lymphatic from malignancy, lymphatic fluid exudation to peritoneal space and direct lymphatic fluid leakage (lymph peritoneal fistulae) caused by thoracic duct obstruction.(Cárdenas and Chopra, 2002)

Chylous ascites can be caused by traumatic and atraumatic. Atraumatic condition such as malignancy, cirrhosis, mycobacterium infection, and others.(Al-Busafi *et al.*, 2014) Our patient was diagnosed with cervical cancer stage II B. Ascites is one of the complication of malignant process (incidence up to 2%). The traumatic condition is direct lymphatic trauma, one of which is due to

radiotherapy. Hurst and Edward reported cases of chylous ascites after radiotherapy. During the explorative laparotomy, there is a damage of small intestine and chylous leak.(Lentz *et al.*, 1990) Our patient was received chemoradiotherapy treatment (external beam radiotherapy 28x, cisplatin chemotherapy 6x and brachytherapy 6x).

Several clinical findings are progressive and abdominal distention (81% with pain) and nonspecific pain (14%). Other symptoms are dyspnoea, weight loss, anorexia, malaise, steatorrhea, malnutrition, lymphatic enlargement, and night sweat. Physical examination findings are ascites, pleural effusion, lower extremity edema, lymphadenopathy, cachexia, weight loss, and hernia.(Cárdenas and Chopra, 2002; Steinemann *et al.*, 2011; Al-Busafi *et al.*, 2014)

In laboratory findings, abdominal paracentesis is the main diagnostic tools and very important for evaluation and treatment.(Baiocchi *et al.*, 2010; Al-Busafi *et al.*, 2014) Chylous ascites is a milky-appearing fluid with high levels of triglycerides that are usually >110 mg/dl or > 1,2 mmol/l.(Steinemann *et al.*, 2011) Additional examinations are CT scan, lymphoscintigraphy to detect abnormal lymphatic drainage, laparoscopy and laparotomy. Abdominal paracentesis from our patient were 4000 ml of milky and cloudy fluid and levels of triglycerides in ascitic fluid were 1057 mg/dl.

Conservative management of chylous ascites are low-fat diet, decreasing intestine lymphatic drainage, triglyceride lymphatic transport, Total Parenteral Nutrition (TPN), somatostatin and abdominal paracentesis to reduce the symptoms. Other therapy for unresponsive cases are Trans-jugular Intrahepatic Portosystemic Shunt (TIPS), angiography and peritoneovenous shunt (Manolitsas *et al.*, 2002; Al-Busafi *et al.*, 2014)

4 CONCLUSIONS

Chylous ascites is a kind of ascites that happened very rarely. Malignancy and cirrhosis are the main etiology for adult patient, while for children the etiology usually congenital abnormalities and trauma. The diagnostic of chylous ascites made with analysis of triglycerides content of ascitic fluid from paracentesis. The treatment of underlying disease is the first important step to treat the patients. Treatments such as low-fat diets, triglycerides intake, paracentesis, TPN and somatostatin could be considered. For refractory cases, we could use Trans-jugular Intrahepatic Portosystemic Shunt

(TIPS), exploratory surgery and peritoneovenous shunt.

REFERENCES

- Al-Busafi, S. A. *et al.* (2014) 'Chylous Ascites: Evaluation and Management', *ISRN Hepatology*. doi: 10.1155/2014/240473.
- Baiocchi, G. *et al.* (2010) 'Chylous ascites in gynecologic malignancies: Cases report and literature review', *Archives of Gynecology and Obstetrics*. doi: 10.1007/s00404-009-1211-0.
- Cárdenas, A. and Chopra, S. (2002) 'Chylous ascites', *The American Journal of Gastroenterology*. doi: 10.1111/j.1572-0241.2002.05911.x.
- Damodar, G. and Rao, A. (2011) 'A rare clinical presentation of Carcinoma Cervix - Ascites', *Indian Journal of Pharmacy Practice*, 4, pp. 57–60.
- Lentz, S. S., Schray, M. F. and Wilson, T. O. (1990) 'Chylous ascites after whole-abdomen irradiation for gynecologic malignancy', *International Journal of Radiation Oncology, Biology, Physics*. doi: 10.1016/0360-3016(90)90554-W.
- Manolitsas, T. P., Abdessalam, S. and Fowler, J. M. (2002) 'Chylous ascites following treatment for gynecologic malignancies', *Gynecologic Oncology*. doi: 10.1006/gyno.2002.6754.
- Micha, J. P. *et al.* (2012) 'Recurrent lymphatic ascites in a patient cured of cervical carcinoma', *Gynecologic Oncology Reports*. doi: 10.1016/j.gynor.2012.05.004.
- Solmaz, U. *et al.* (2015) 'Chylous ascites following retroperitoneal lymphadenectomy in gynecologic malignancies: Incidence, risk factors and management', *International Journal of Surgery, (Part A)*, pp. 88–93. doi: 10.1016/j.ijssu.2015.02.020.
- Steinemann, D. C. *et al.* (2011) 'Atraumatic chylous ascites: Systematic review on symptoms and causes', *Journal of the American College of Surgeons*. doi: 10.1016/j.jamcollsurg.2011.01.010.