Chylous Ascites Post Laparoscopic Donor Nephrectomy: Is not rare as we think?

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Introduction

- Chylous ascites is an accumulation of milky, chylomicrons and triglyceride-rich fluid within the peritoneal cavity as a result of disruption within the lymphatic system.
- The causes are: congenital defect of the lymphatic system, malignant neoplasm, post-surgical, trauma, infections related to bacterial, tuberculosis and parasite [1].
- We, hereby, present a case of chyle leak that developed following a laparoscopic donor nephrectomy and managed conservatively.

Case Records

- 40 year old lady underwent laparoscopic donor nephrectomy. On post-operative day 2, she noticed swelling of her left thigh and genitalia. Two weeks later she developed painless abdominal distension. Ascites, which confirmed by CT scan. Drain was inserted under ultrasound guidance. The diagnosis of chylous leak was confirmed with a triglyceride of 62.3 mmol/l (the normal level is up to 2 mmol/l) in ascetic fluid. The fluid analysis confirmed chyle leak.
- The patient was treated conservatively with octreotide subcutaneous injection three times per day in addition to diet modification such as high protein and low fat and medium chain triglyceride.
- Patient fully recovered after 6 weeks and went back to work and normal diet.
- No recurrence been reported at 12 month of follow up.

Discussion

- Chylous ascites after donor nephrectomy is reported to occur in 0.6% to 5.9% cases[2, 3].
- 302 laparoscopic donor nephrectomy been done in our centre since 2007. This is the 2nd case to be reported in our centre, which make the incident around 0.6%.
- Chyle leak has been increasingly reported in the recent years.
- Chyle leaking is not uncommon post laproscopic donor nephrectomy but only minority of patient will develop signs and symproms. It is not a routine practice that post operation drains is placed and if so it may be removed in day 2 or 3 post operation and the leak by mild cases may be missed due to small amount.
- The diagnosis of chylous leak need a confirmation by high triglyceride level>2 mmol/l.
- The management is mainly combination of therapeutic paracentesis and conservative management, which include diet modification such as high protein and low fat diet, medium chain triglyceride (MCT) supplementation and total parental nutrition (TPN) to prevent nutrition and immunological debilitated. The low fat diet and MCT are absorbed directly from the gut into the portal venous circulation and by passing the lymphatic system.

- Octreotide is working through somatostatin receptors in the gastrointestinal tract and pancrease by reduce the blood flow and inhibit the lymph secretion in the intestine.
- Lymph flow is around 1mg/kg/hr at fasting and can reach 200 ml/kg/hr after a fatty meal.
- The resolution of chylous leak occur within 2-6 weeks.
- Surgical intervention will needed if lymphatic leak persist despte maximal conservative management

Figure 1. CT scan of the abdomen demonstrated large volume ascites

Figure 2. CT scan of the abdomen demonstrated significant retroperitoneal component in the left renal bed

Conclusion

- Chylous ascites is no longer a rare complication specially after laparoscopic donor nephrectomy become the choice operation.
- Prognosis is good if early diagnosis and treatment.
- The initial management should be conservative treatment with high protein, low fat diet, MCT, TPN and somatostatin.
- Surgery, sclerotherapy and peritoneovenous shunting should be consider as second line of management.
- Prevention of post operative chylous ascites by careful dissection of great vessels and renal pedicle, clipping and application of homeostatic agents to the area of perihilar and retroperitoneal fatty tissue and placement of a drainage tube is recommended in patients at high risk of chylous leak.

References

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