



## ROLE OF DOXYCYCLINE SCLEROTHERAPY IN MANAGEMENT OF POST-RENAL TRANSPLANT HIGH OUTPUT LYMPHORRHOEA

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### ABSTRACT

Lymphorrhea is unusual post renal transplant complications; Lymphorrhea is lymphatic fluid leakage around renal allograft. The meticulous dissection for preparation of Iliac vessels of recipient damages the lymphatic channels or otherwise dissection of renal vessels of donor results in lymphocele. Doxycycline sclerotherapy can be a good option for management of high output (> 500ml) lymphorrhoea.

**KEYWORDS :** Doxycycline, Sclerotherapy, Lymphorrhoea, Renal Transplant, High Output

### INTRODUCTION

Lymphorrhea is the lymphatic fluid leakage around renal graft (perivascular and/or hilar) caused by severed lymphatic vessels during transplant surgery. The meticulous dissection for preparation of Iliac vessels of recipient damages the lymphatic channels or otherwise dissection of renal vessels of donor results in lymphocele (1).

Various etiological factors have been established like acute allograft rejection, delay in graft function, graft biopsy, acute tubular necrosis, administration of heparin, cyclosporine and mammalian Target of Rapamycin (mTOR) based immunosuppression, Cytomegalovirus infection, re-transplantation, edema of the lower extremities and adult polycystic kidney disease (2).

### Review of Literature

Lymphorrhea was once used as replacement of lymph ascites, chylous ascites, chylothorax or the lymph fluid exudation, which really confused us. Actually lymphorrhea is lymphatic exudation on the wound after slight trauma of lymphatic vessels. Lymphorrhea after the trauma, deep inside body, will heal itself in most of the situations or form into lymph ascites, lymphocele occasionally.

Ilezecki et al. describe lymphorrhea as light color fluid profusely soaked dressing. Ghezzi F et al. ever defined lymphorrhea as the ultrasonographic finding of free lymphatic fluid in the peritoneum. This is not accurate since we cannot find the difference between lymph ascites or chylous ascites. Lymphorrhea may occur after the vascular reconstructive surgeries, such as a reconstructive procedure of the superficial femoral artery. And 10% – 16% of cases after vein graft harvesting for infrainguinal arterial bypass suffer from lymphorrhea.

Loss of fluid, triglyceride, lymphocyte and immunoglobulin, from the leakage of lymphatic vessels may lead to dehydration, nutritional deficiency and immunologic dysfunction. Pain and prolonged hospital stay (about 12.4 to 20.4 days) are the most common influence of lymphatic leakage. At the same time, it will also will increase the infection rate even with the negative microbiological test. Compression of vital structures may often happen in chylous ascites, lymphocele and chylothorax. The others are less mentioned or with no clinical symptom, such as dehydration, nutritional deficiency, hypoalbuminemia, immunologic dysfunction or pyemia. Theoretically, all of these complications can occur for a long time and a large loss of lymphatic fluid. it almost regresses after a pigtail drainage tube is placed and approximately 3.5 Liter of odorless yellow-white fluid drained off (3). Sclerotherapy with use of

doxycycline after percutaneous drainage is an easy, safe, inexpensive, and effective means of treating postoperative lymphoceles (4).

### MATERIALS AND METHODS

Retrospective and prospective study using sclerotherapy (Doxycycline or Povidone iodine) as the only form of treatment for postrenal transplant lymphorrhoea were included. Study used percutaneous transdrain sclerotherapy as treatment, and the success rate of the intervention was recorded.

Total 96 renal transplants done at our centre, 14 patients developed lymphorrhoea. 50ml of Povidone iodine (10%) instilled in cavity through the drain placed during transplant surgery and drain clamped for 1 hour, and of amount draining lymph reduced to 20% of previous amount after 1 session and reduced to nil after 2nd session only for 2 lymphorrhoea patients, 12 patients continued to have high output (> 500ml) of lymph through the drain. All these patients managed with instillation of 500mg of doxycycline diluted in 50ml of sterile water or distilled water, drain clamped for 60 minutes and drain amount reduced to 25% - 30% of total drainage after 1 session and reduced to nil after 2nd session.

Doxycycline instillation resulted in severe pain abdomen in initial 5 patients, managed with opiod injections. Remaining 7 patient received opiod injection 15 minutes before instillation of doxycycline.

### RESULTS

14.53% of total renal transplant patients developed high output lymphorrhoea and 14.28% of lymphorrhoea patients managed successfully by 10% povidone iodine while 85.71% of patients needed and managed successfully by doxycycline. Mean duration of keeping drain insitu was 10.5days (Range 7-15days).

### DISCUSSION AND CONCLUSION

Post-renal transplant high output lymphorrhoea is a challenging condition that can significantly impact patient outcome. Doxycycline sclerotherapy can be considered safe and effective treatment option before opting for surgical management if other conservative managements fail.

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