

Lymphocele in a Renal Transplant Recipient During Lymphoscintigraphic Evaluation of Unilateral Leg Oedema: a Case Report

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ABSTRACT

Lymphocele is a common lymphatic complication in renal transplant recipient. The definition of lymphocele is a lymph-filled extraperitoneal space, with no epithelial lining. This condition may originate from leakage of lymph from unligated iliac vessels lymphatics of the recipient and/or surgical damage of the graft lymphatics during the procurement. The untreated complications may lead to catastrophic consequences. Early diagnosis and treatment of these complications are paramount to prevent graft failure and other significant morbidities to the patients. Here a case is presented in a haplotype renal transplant recipient showed abnormal radiotracer accumulation in the transplant fossa during lymphoscintigraphic evaluation with history of right lower limb swelling.

Key words: Lymphocele, lymphoscintigraphy

INTRODUCTION

Kidney is the first and most frequently transplanted organ. Though the surgical techniques and transplantation technologies have improved remarkably during the last decades, complications do occur and the untreated complications may lead to catastrophic consequences. Renal transplantation complications may be vascular, urologic and nephrogenic, including acute tubular necrosis, graft rejection, chronic allograft nephropathy, and neoplasm. Early diagnosis and treatment of these complications are paramount to prevent graft failure and other significant morbidities to the patients (1). After renal transplantation, lymphatic complications specifically lymphocele still remains a surgical complication due to dissection of the lymphatic of the recipients and the graft. Perirenal lymphocele is the most common cause of perinephric fluid collection

of post transplant. It may develop any times from weeks to months after transplant but most likely happens in the first month or two months after the operation. It is mostly due to inadequate ligation of iliac lymphatics during the surgery results in lymphatic leakage (2).

Lymphoscintigraphy is a radionuclide procedure for the diagnosis of lymphadema and has been used to evaluate lymphatic involvement with malignancies (1), to determine lymphatic drainage pathways in patients with melanoma (2) and to evaluate lymphocele. Here a case is reported with unilateral leg oedema in a renal transplant recipient who was referred to the institute for evaluation of lymphatic obstruction with lymphoscintigraphy, but revealed lymphocele in renal transplant fossa with patent lower lymphatic channels.

CASE REPORT

A 23 years old gentleman with history of glomerulonephritis, hypertension and chronic renal failure received a renal transplant in right iliac fossa in November, 2016. Three months after the transplant he had developed a localized collection posterior to the transplanted kidney which was revealed by ultrasound and it was compatible with lymphocele after biochemical study of the liquid obtained by percutaneous puncture. In March, 2017 following exploration two lymphocele sacs were identified. After drainage of the sacs and sclerotherapy; a connection between the sacs and peritoneal cavity was created with a drain tube was kept in situ. He was referred at National Institute of Nuclear Medicine and Allied Sciences for

lymphoscintigraphic evaluation of both lower limbs due to development of right leg swelling for the last 15 days. (1 + 1) mCi Tc-99m nanocolloid was injected intradermally in each web spaces of 1st and 2nd toe of both feet. After a gentle massage, spot images were obtained up to 30 minutes and then delayed whole body sweep images were taken after two hours. In lymphoscintigraphy the lymphatic channel was patent with visualization of collaterals lymphatics in both lower limbs. A localized collection of lymphatics was seen at right pelvic cavity which was diagnosed as post transplant case of lymphocele and was consistent with the primarily surgically drained lymphocele.

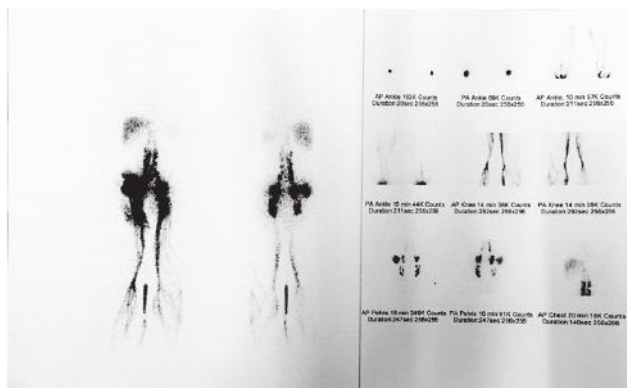


Figure: Whole body planar images (1) and early spot images (2) showing abnormal tracer accumulation in right pelvic cavity and visualization of collateral lymphatics

DISCUSSION

Lymphocele is a collection of lymphatic around the transplant kidney. It usually originates two weeks to six months after transplantation with a peak incidence at six weeks. The incidence of clinically significant lymphocele is 20%, but it may develop 12 to 40% of transplant recipient (3,4). Lymphoceles are detected more sensitively by ultrasound examination, intravenous pyelography, CT and lymphangiography (5,6).

In most of the cases lymphocele remains clinically silent, but the most common manifestation is impaired graft function with perigraft collection and unilateral leg oedema (7). In a study by Džamić et al, included 311 patients where lymphocele was recorded in 11.9% (37

cases). Out of them 5.5% (17 cases) were symptomatic and 6.4% (20 cases) were asymptomatic (8). Veeramani et al. reported significantly higher incidence of rejection in patients with symptomatic lymphocele compared with the overall rejection rate. In addition, they reported a lower graft survival at 10 years in patients with lymphocele compared with those that did not develop lymphatic complications (68.14% versus 76.36%) (9).

On the other hand, development of peripheral oedema following renal transplantation is another common finding. Bilateral peripheral oedema is seen in cases of congestive heart failure, delayed graft function with extracellular volume expansion or nephrotic syndrome due to glomerular disease. Early after transplantation unilateral peripheral oedema also often develop on the transplanted site. Spontaneous formation of lymphedema has been seen with sirolimus-based immunosuppression in renal transplant recipients. Thanaraj et al, reported a case where a 52 years old women developed unilateral left leg swelling about 15 months after renal transplantation. Lymphoscintigraphy demonstrated the complete absence of tracer drainage from the left lower limb. A tentative diagnosis of unilateral lymphoedema due to a mammalian target of rapamycin (mTOR) inhibitor was made and sirolimus was withdrawn. Within two weeks, the swelling improved with no discernible leg swelling and good transplant function was restored (10).

In this case the patient was apparently asymptomatic in the early stage. The lymphocele was diagnosed incidentally during sonographic evaluation. The patient was treated eventually by surgery. Thereafter patient developed right leg oedema. Duplex study of the lower limb vessels shows normal arterial blood flow with proximal venous obstruction due to pelvic collection and normal flow of transplanted kidney. His lymphoscintigraphy report revealed collaterals below knee with patent main lymphatic channels. But collection of radiotracer was noted native to the transplanted kidney, which was diagnosed as post transplant case of lymphocele (figure 1,2).

So, in conclusion, both the lymphocele and peripheral lymphoedema are common surgical complications in renal transplant recipient. Lymphoscintigraphy is a wonderful diagnostic tool for the evaluation of both complications. Physician can perform the radionuclide study to diagnose and confirm the possible common complication of renal transplantation and treat accordingly.

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