Unusual Presentation Post Renal Transplant Lymphocele
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Abstract
Retroperitoneal lymphocele is one of the common complications following renal transplantation, and usually present with persistent lymphatic drain in immediate post transplant period or perigraft collection in post transplant routine ultrasound. In this case report, we present a renal transplant recipient who presented with acute urinary retention and right sided lower limb swelling mimicking deep vein thrombosis (DVT), due to a large lymphocele behind the bladder compressing bladder neck and common iliac vessels, approximately 2 months after renal transplant. Though lymphocele is not uncommon post transplant complication, the presentation of lymphocele after 2 months post transplant with pressure effect of this type is uncommon. In this case, pressure on common iliac vessels mimicking DVT and on bladder neck, leading to acute retention of urine and leading to hydronephrotic graft; which occurred in CNI(Cyclosporine) based regimen is extremely rare.

Introduction
Lymphocele is the lymph collection between the kidney allograft and the urinary bladder and most frequently found following renal transplantation. It is one of the frequent complications of kidney transplantation with a reported incidence between 1.1-58%.¹ Small lymphocele may remain asymptomatic, but large lymphocele may very rarely cause hydronephrosis because of compression of the ureter there by graft dysfunction. Infection may initially complicate 6% of lymphocele, and it also may appear after percutaneous drainage.² We describe clinical and imaging findings of a 38 years old renal allograft recipient with acute urinary retention and swollen right lower limb caused by post-transplant lymphocele mimicking deep vein thrombosis(DVT) after renal transplant.

Case Presentation
A 38 years old, diabetic, hypertensive female underwent living unrelated donor kidney transplant on 6th Jan 2012. Blood group of both donor and recipient was A positive. Donor was a middle aged (Age 48) women, with no past history of hypertension or diabetes or any infective pathology in recent past. HLA haplomatch with the donor was 3/6 (HLA-A, HLA-B, HLA-DR) and cross match was negative. eGFR of the donor was 85ml/min. The Kidney graft from the donor was placed extra peritoneally in the right iliac fossa, internal iliac artery was anastomosed end to end with renal artery and external iliac vein was anastomosed end to end with external renal vein. The ureter was anastomosed with the recipient bladder and DJ stent was kept in situ to avoid vesicoureteric complications. Warm ischemic time was 2 and half min and cold ischemic time was 25 min. Immediate post transplant recovery was uneventful. Post surgical retroperitoneal drain was removed on 4th post operative day, and the post drain removal USG was normal and showed no peri graft collection (Figure 1) She was discharged with normal renal function. Her maintenance immunosuppressant at discharge was cyclosporine (225mg BD), mycophenolate sodium (360 BD) and steroid (25mg) as usual and induction agent was basiliximab. Around two month after transplant she presented with sudden drop in urine output along with the history of progressive swelling of her right lower limb over last 3-4days (Figure 2). There was no history of trauma or discontinuation of her usual medications. On clinical
normal patency of the saphenofemoral junction and no demonstrable thrombus within and throughout course of the femoral and popliteal vein except some amount of soft tissue edema. USG of the graft showed gross hydronephrosis and dilatation of the proximal ureter with large free fluid collection at the lower pole of the grafted kidney; which made it difficult for interpretation of the complete anatomy of the bladder. (Figure 4). CT KUB was done which showed large collection of clear fluid without any debris or septation in lower pole of graft kidney and the fluid compressed the external iliac vein, ureter, bladder leading to hydronephrosis of the graft kidney and venous flow obstruction (Figure 5). Immediate CT Guided aspiration of 450 ml of fluid caused sudden gush of urine in the bladder and relieved the graft tenderness. A CT guided pigtail catheter was placed at lower pole immediately. Aspirated fluid on analysis revealed predominantly lymphocytes on smear cytology and Cr level of the aspirant fluid was (2.1 mg/dl) which correlated with the simultaneous serum sample (serum creatinine 2.54) but not with the urine sample (urine Creatinine was 15.49 mg/dl). Pedal edema started to decline in the following days. There was no further accumulation of the fluid and urine

Fig. 1: Post transplant Ultrasound image of graft kidney showing no hydronephrosis or perigraft collection

Fig. 2: Swelling of right lower limb on admission

Fig. 3: Doppler USG of graft kidney showing normal hilar and pole to pole blood flow

Fig. 4: USG showing gross hydronephrosis and dilatation of the proximal ureter of the graft kidney
output peaked up satisfactorily. Repeated CT KUB were done that showed no further accumulation of lymphocele (Figure 6). The lymph continued to drain and her pedal swelling decreased and urine output normalized. She was discharged with the pigtail drain and with Cr- 1.26. She was advised for routine follow up with strict bed rest.

Discussion

Lymphocele are the most common peri-graft fluid collection, with a reported cumulative incidence as high as 20%. Lymphocele usually result from improper tying of peri vascular lymphatics while preparing the graft bed, the surgical disruption of lymphatic tied during or following the operation, leakage of lymph from the perihilar lymphatics of the donor kidney, perivascular dissection or disruption of hilar lymphatic vessels. Multiple factors are thought to predispose to lymphocele formation, of which mTor inhibitors are reported to be the prime cause, though acute tubular necrosis, acute allograft rejection episodes, re transplantation, transplant biopsy, and adult polycystic kidney disease in the recipient are also mentioned as predisposing cause in literature. A body mass index (BMI) >30 has also been associated with lymphoceles. Side effect of sirolimus include high frequency of lymphocele and lots of studies have been conducted that showed sirolimus induce lymphocele formation in renal transplant recipient but there are very few evidences of lymphocele formation associated with Cyclosporine. In this case the patient was obese with BMI 30.7, which could be one risk factor for lymphocele formation. She never received mTOR. After advancement and standardization of surgical techniques; occurrence of lymphocele without mTOR based regimen is not very common. The way the patient presented to us with acute urinary retention and features mimicking DVT was never reported as presentation of lymphocele in literature. We reviewed retrospectively the surgical notes which clearly mentioned about the usual tying of the perivascular lymphatics with nonabsorbable suture and bench dissection and tying of perihilar fat and soft tissue of graft kidney as per routine surgical procedure practiced at our center. The renal artery was anastomosed with the internal iliac artery and the renal vein was anastomosed with the recipient’s external iliac vein. Immediate post transplant period there was two USG (D5, D10) of graft and perigraft tissue (one immediately after the drain removal and other after the catheter removal) did not showed any perigraft collection. The sudden presentation with acute graft tenderness, anuria and features suggestive of DVT initially panicked us with the possibility of post transplant vascular complication; likely renal vein or common iliac vein thrombosis which otherwise proved to be secondary to be of large lymphocele and its compressive effect on the common iliac vessel and bladder neck.

Conclusion

Our patient presented with acute urinary retention and swelling of right lower limb. Emergency Doppler study of the right lower limb vein showed normal compressibility of the vein with normal patency of the saphenofemoral junction. There was no demonstrable thrombus in the throughout course of the femoral and popliteal vein. Though immediate clinical diagnosis was post transplant venous thrombosis and rare possibility of rejection was also thought of in view of raised creatinine and graft tenderness but follow up investigations revealed the actual cause being mechanical compression of bladder neck and iliac vessels by a lymphocele. Although no infectious complications or recurrence have been noted the patient is advised to be follow up for 12months.
Conflict of Interest

The authors have declared that no Conflict of interest exists.

Reference


