Lymphology 11 (1978) 89–92

An Unusual Case of Lymphocele after Renal Transplantation

Case Report

J. Lerut*, T. Lerut, J.A. Gruwez, P. Michielsen**

Transplant Unit – Academic Hospital Sint Raphaël, Leuven, Belgium

Summary

A patient who developed a lymphocele five years after renal transplantation is presented and discussed.

Introduction

Lymphocele is a relatively benign complication of retroperitoneal lymph vessel dissection and other surgical procedures including renal transplantation (3, 6). The reported incidence varies from 1.2 to 18.5 %. In our series of 248 renal transplants performed between 1966 and 1977 lymphoceles occurred in 4% of patients.

The main clinical findings suggesting a lymphocele are remittent swelling and pain over the allograft; ipsilateral leg swelling; prolonged drainage of lymph from the site of incision; and impairment of renal function. Important complications include obstructive uropathy; infection at the site of the transplant which may lead to life threatening complications such as septicemia and loss of the graft; pulmonary embolism secondary to thrombosis of major veins; and spontaneous allograft rupture which is extremely rare.

The diagnosis of lymphocele is made by a combination of clinical findings, excretion urography, ultrasound and recently C.T. whole body scanning. Its importance lies in differentiating lymphoceles from urinomas from fistulae, acute rejection, and deep vein thrombosis all of which require a different therapeutic approach. Preferably, initial treatment of lymphocele should be percutaneous closed aspiration which may solve the problem in the majority of cases. Should this method fail one can choose between internal or external drainage. Internal drainage by intraperitoneal marsupialization together with or without omentoplasty is increasingly advocated in the current literature (1, 2).

Readmissions for recurrence of lymphoceles, super infection, and wound drainage are thus reduced.

Case Report

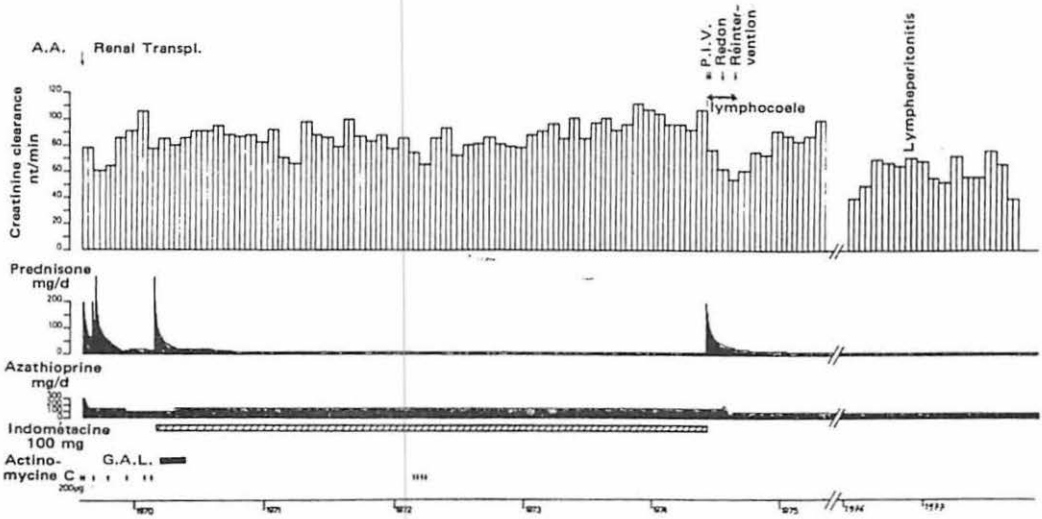
A.A., a twenty-six year old female developed chronic renal insufficiency from glomerulonephritis. On July 25, 1969, a left cadaver kidney (identical kidney minus 2 loci) was implanted retroperitoneally into the right iliac fossa. A termino-terminal anastomosis with the hypogastric artery was performed and the urinary tract was reconstructed by a pyelo-ureteral anastomosis. A cross-like capsulotomy was performed. At the same time bilateral nephrectomy was undertaken.

Five rejection episodes were successfully treated (Table 1). Follow up revealed hypertension and aseptic necrosis of the shoulders, knees and hips. On June 23, 1974, readmission was necessary because of severe pain over the transplant site. The kidney was painfull on palpation and enlarged. A good urine flow was present at this time with only slight increase in the serum creatinine to 1.45 mg%. Urine sediment was also normal. IVP revealed an edematous kidney with widely stretched calices and proximal ureter (Fig. 1). These clinical and radiological findings suggested a fresh episode of rejection. Antirejection therapy resulted in only a temporary improvement.

Tomographs suggested marked enlargement of the kidney and arteriography showed

* Dept. Gen. Surgery (Dir. Prof. J. Gruwez)
** Dept. Nephrology (Dir. Prof. P. Michielsen)

0024–7766/78 1500–0089 $ 04.00



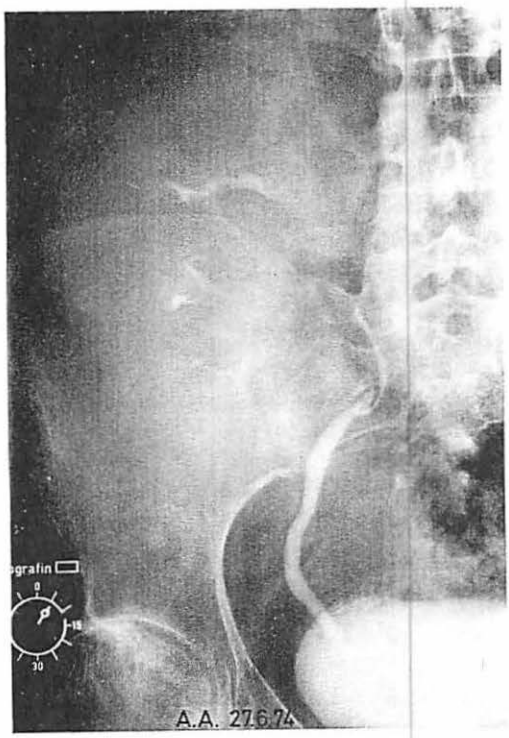


Fig. 1. IVP presenting widely stretched calices.

deviation and stretching of the capsular vascularisation suggesting an intracapsular fluid accumulation (Fig. 2). Subsequent puncture with biochemical analysis and injection of radio opaque contrast confirmed the perirenal collection (Fig. 3). On July 6th a Redon-drainage system was applied resulting in a fluid collection of 1.5 to 2 litres a day. Patent blue tests and lymphography were normal.

Since conservative treatment was insufficient, re-exploration of the transplant site was undertaken. A large collection of lymph was found between the capsule of the kidney and its parenchyma. The lymph emerging constantly from a 3 cm deep sinus in the renal cortex. Partial capsulectomy and omentoplasty on August 10, 1974, were followed by a return to normal renal function. Post operative progress was reasonably good although variation in the abdominal volume was noted. However on June 28th, 1976, readmission was necessary because of acute abdominal pain and rapid development of ascites. At this time the temperature was 39.4°C, and serum creatinine 1.1 mg%. A laparotomy revealed diffuse fluid drainage from the kidney surface. There was no evidence of sepsis and subsequent culture of ascitic fluid was negative. The diagnosis appeared to be "lymphoperitonitis". Anti-biotics produced clinical improvement and at the present time there is good renal function. Ascites has been minimized by further treatment with intermittent diuretics and a low salt diet. A reevaluation of a previous phlebography performed between the first and second reintervention, revealed several arguments in favor of a renal

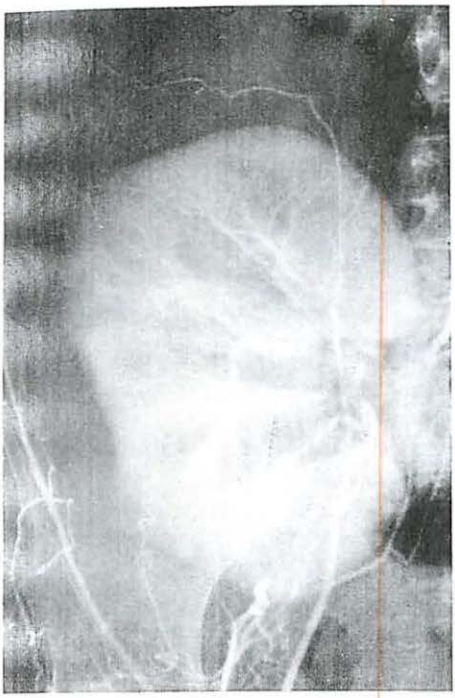


Fig. 2. a) Deviation and stretching of the capsular vascularisation suggesting an intracapsular fluid accumulation.

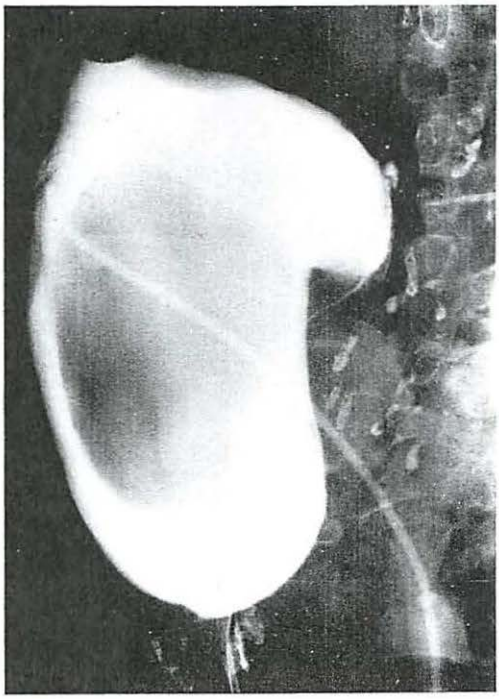


Fig. 3. Perirenal collection after injection of contrast dye.

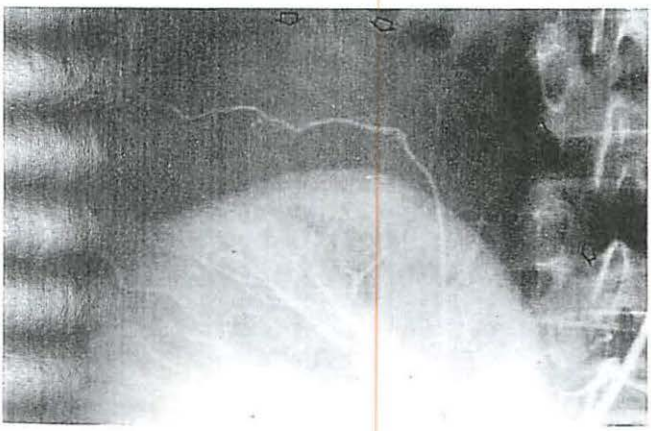


Fig. 2. b) Detail

thrombosis i.e. the parsimonious filling of the renal vein, the impossibility to catheterize selectively the renal vein and the constant lacunar image at the iliac vein (Fig. 4).

Discussion

This report presents the multiple problems due to lymphatic complications following renal transplantations. Lymphocele can be a very

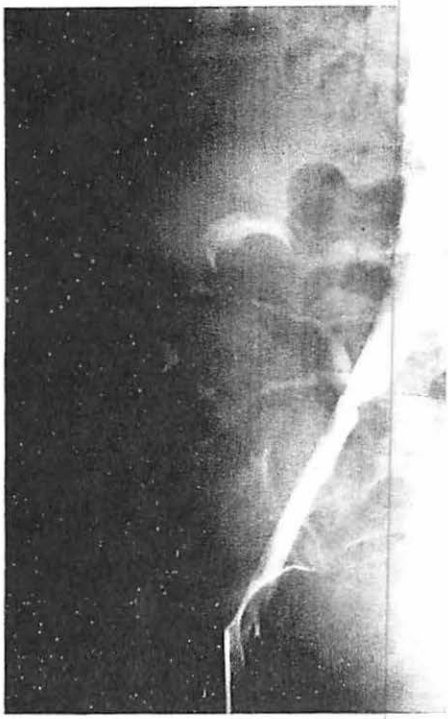


Fig. 4. Phlebography: lacunar image at the anastomotic site and parcimonious filling of the renal vein which was impossible to cannulate selectively.

late complication of renal transplantation but to our knowledge no case has been reported of its onset after five years (7). Most lymphoceles are discovered in the first six months after transplant surgery. It is well known that lymph flow in the efferent vessels from the kidney, blood flow in the renal vein, and urine production for a reciprocal triad. Obstruction of any one of these channels may produce an increase in intrarenal pressure and an increased flow from any of the other two systems (4). Capsulotomy may also be a causal factor in this patient.

The best treatment of a giant perirenal lymphocele which has not responded to percutaneous suction drainage is internal marsupialization together with omentoplasty (8). This has been proved extremely successful in the case reported. But the episode of "lymphoperitonitis" should refrain us from the systematic use of this method. Ureteral trauma may also occur during revision of the transplant site. Closed aspiration remains therefore the treatment of choice in our service (5).

This case report clearly demonstrates that lymphoceles not always originate from severed damaged recipient lymphatics, but occasionally arise from the renal graft itself.

References

1 *Byron, R.L., R.H. Yonimoto, V. Davagan* et al.: Lymphocysts: Surgical correction and prevention. Am.J.Obstet.Gynecol. 94 (1966) 203-207
2 *Howard, R.J., R.L. Simmons, J.S. Najarian:* Prevention of lymphoceles following renal transplantation. Ann.Surg. 184 (1976) 166-168
3 *Koehler, P.R.:* Injuries and complications of the lymphatic system following renal transplantation. Lymphology 5 (1972) 61-67
4 *Lebrie, J.S., H.S. Mayerson:* Influence of elevated venous pressure on flow and composition of renal lymph. Am.J.Physiol. 198 (1960) 1037-1040
5 *Lerut, T., J. Lerut, J.A. Gruwez* et al.: Lymphatic complications in 248 renal transplantations. (In press)
6 *Lerut, T., Y. Van Renterghem, J.A. Gruwez:* Le lymphocele comme complication de la transplantation rénale. Internat.course on transplantation, Lyon 1974. Simep-Editors, Villeurbaunne, France, 243-244
7 *Mac Laughlin, M.G., G.M. Williams:* Late perirenal lymphocele causing ureteral and arterial obstruction in renal transplant patients. J.Urol. 114 (1975) 527-530
8 *Schweizer, R.T., S.A. Bartos, J.H. Foster:* Treatment of pelvic lymphoceles after renal transplantation by intraperitoneal marsupialisation. Ann.Surg. 1 (1976) 316-318

Dr. Jan Lerut, Academic Hospital Sint Raphaël, Dept. Gen. Surgery, Kapucijnenvoer 33, 3000 Leuven (Belgium)