Case Reports

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GIANT LYMPHOCELE AFTER RENAL TRANSPLANTATION. CASE REPORT AND BIBLIOGRAPHIC REVIEW

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Summary.- *OBJECTIVE: To report the case and the iconography of a lymphocele after renal transplantation and to review the literature about the diagnosis and treatment of this surgical complication.*

METHODS: 69 year-old woman who undergone renal transplantation and presented right lower extremity edema and wor-sening renal function. It was demonstrated by ultrasound

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and computerized tomography a liquid collection, compatible with lymphocele after biochemical study of the liquid which was obtained by percutaneous puncture.

RESULTS: The patient underwent a laparoscopic intraperitoneal drainage of the lymphocele, with good surgical outcomes.

CONCLUSION: Lymphocele is a common pathology after a renal transplantation, which needs to be treated depending on its clinical manifestations. There are mainly two therapeutic alternatives, depending on the size of the lymphocele: sclerotherapy and surgical intraperitoneal drainage. Apart from highly selected cases, laparoscopic approach is currently considered first choice when a surgical treatment is prescribed due to its security and effectiveness.

Keywords: *Lymphocele. Renal transplantation. Laparoscopy.*

Resumen.- *OBJETIVO: Comunicar el caso y la iconografía de un linfocele postrasplante renal y revisar la literatura sobre diagnóstico y tratamiento de esta complicación quirúrgica*

MÉTODOS: Mujer de 69 años sometida a trasplante renal, que se presenta con edema en miembro inferior derecho y deterioro de función renal. Se demostró con ecografía y TAC una colección líquida, compatible con linfocele tras estudio bioquímico del líquido obtenido por punción percutánea.
RESULTADOS: Se somete a la paciente a una marsupialización del linfocele por vía laparoscópica, con buenos resultados quirúrgicos.

CONCLUSIONES: El linfocele es una entidad frecuente tras el trasplante renal, precisando tratamiento según las manifestaciones clínicas. Existen fundamentalmente dos alternativas terapéuticas, dependiendo del tamaño: esclerotherapia y marsupialización quirúgica. Salvo casos muy seleccionados, el abordaje laparoscópico se considera actualmente, por su seguridad y eficacia, de primera elección cuando se indica tratamiento quirúrgico.

Palabras clave: *Linfocele. Trasplante renal. Laparoscopia.*

INTRODUCCIÓN

The presence of liquid collections in the postoperative and in the mid and long -term evolution in renal transplantation is frequent. Some series demonstrate them in up to 50% of the cases (1, 2), almost everyone was asymptomatic.

Some of these patients may have general, vascular or obstructive uropathy repercussions that are secondary to the collection, so it is necessary to study the cause.

The study of these collections is orientated to distinguish urinoma, abscess, lymphocele and hematoma. It's done by evaluating the time chronologic presentation, image studies and the liquid analysis.

CASE REPORT

We present a female of 69 years old with a background of high blood pressure and hypercholesterolemia, with terminal renal dysfunction of unknown cause, hyperparathyroidism and anemia secondary to chronic renal failure treated with erythropoiesis stimulant factor. Residual miction was about 200 ml. a day.

In 2004 the patient started with hemodyalisis, later he entered in the transplantation waiting list.

In January of 2008 a cadaver donor kidney was implanted. There were no postoperative surgical complications, just two medical complications that were diabetes treated with insulin, and toxicity due to anticalcineurinic drugs that made the allograft non functional the first days after the surgery. Medical discharge was given five weeks after the intervention with serum creatinine of 0.9 mg/dl and diuresis about 2000cc a day and receiving treatment with prednisone, tacrolimus and mycophenolate mofetil.

After 2 weeks she is admitted to hospital because of right inferior limb edema, worsening renal function, diminution of diuresis and increase of the serum creatinine up to 2 mg/dl. Patient was in good general condition, without fever or hemodynamic manifestations.

The ultrasound scan showed a big liquid collection near the allograft. The CT scan reveal that the collection went from cranial of the aorta bifurcation (Figure 1) to the rectum (Figure 2) and it compressed the iliac vessels displacing the urinary bladder (Figure 3).

A percutaneous puncture was done and a pig-tail catheter was placed to drain the collection, with an improvement of the symptoms. The analysis of the liquid (creatinine of 1.67 mg/dl, sodium of 146 mEq/l, potassium of 4.3 mEq/l) confirmed the diagnosis of lymphocele.

After ruling out infection it was done a surgical laparoscopic marsupialization of the lymphocele to the peritoneal cavity. Patient was discharged in the third postoperative day.

Fourteen days after the procedure a CT scan showed resolution of the lymphocele (Figure 4).

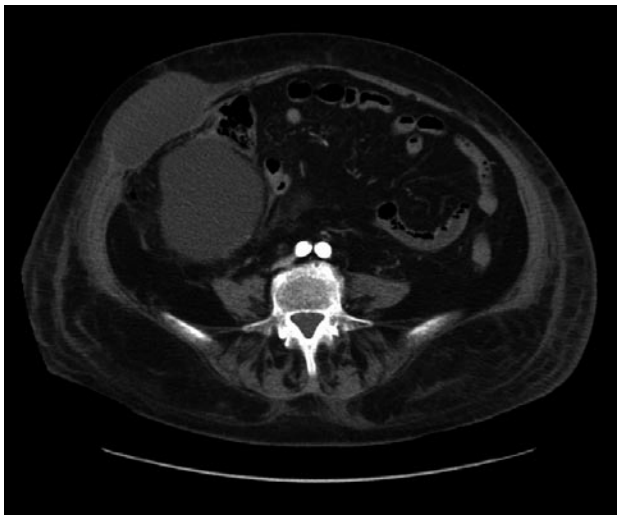

FIGURE 1.CT scan at the cranial level of the collection.

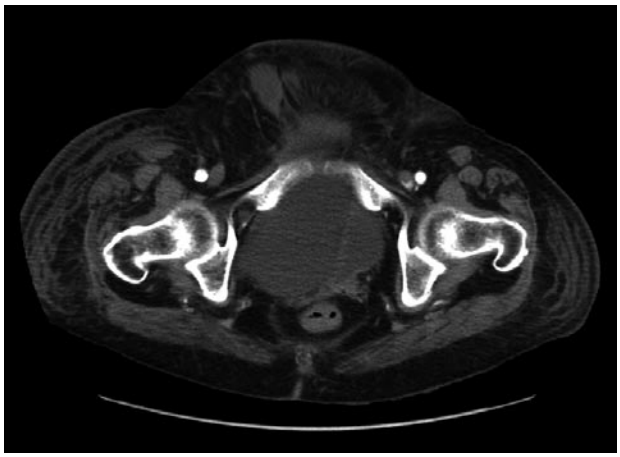

FIGURE 2. CT scan at the caudal level of the collection.

DISCUSSION

The lymphocele is a lymph collection in the surgical site. Hume was the first one to describe it related with a renal transplantation in 1968 (3), and it's demonstrated that appears with a high frequency, up to 18% (4). Only 5% of these patients would need treatment (5).

Medical and surgical factors are involved in the etiology of the lymphocele. Among the medical factors the acute renal rejection was important (6), but its significance is currently decreasing due to the improvement of immunosupresive drugs. The therapy with mTOR inhibitors is related with more incidence of lymphocele (7) and complications of the surgical wound (8-10). The surgical factor appear to be the most important, specially the lesion of the allograft´s lymphatic vessels (11), and of the perivascular ones near the anastomosis too. Another one is the decapsulation of the kidney, but in less importance.

The diagnosis is made following the clinical suspiction. The symptoms and signs that are clinically significant are the ones secondary to the compression of the surrounding structures: tumor in the fossa iliaca or hypogastrium, inferior ispilateral limb edema, obstruction of the upper or lower urinary tract, constipation, hypertension or venous thrombosis. Semiology must be integrated with the chronological moment of appearance of symptoms, knowing

FIGURE 3. CT scan showing the collection involving the iliac vessels, the urether of the allograft and displacing the urinary bladder

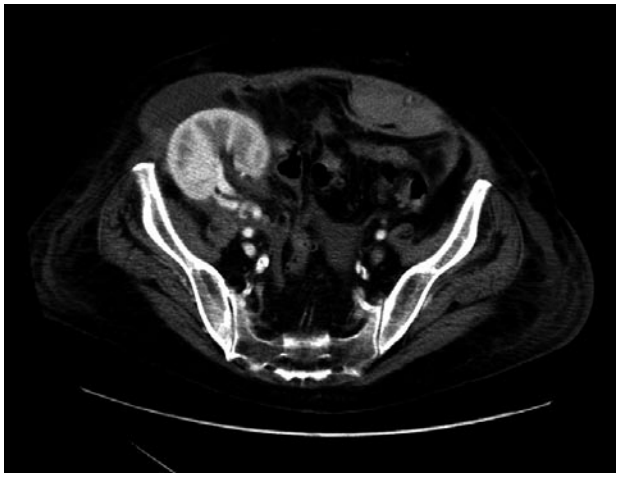

FIGURE 4. Control CT scan, showing the resolution of the collection.

that lymphocele appears after the first month after the surgery (6). The ultrasound and the CT scan are the most useful image test, the MRI or the radioisotopes are rarely used. The diagnosis is confirmed with the biochemical analysis of the liquid, which will be similar to the biochemical analysis of blood serum.

When the lymphocele is going to be treated, the different alternatives must be evaluated:

- Percutaneous puncture and aspiration: less used because of its bad result and high risk of recurrence and infection (6, 12).

- External surgical drain: more effective than the aspiration, but there could be infection and the time of treatment is long (6). This technique is currently less used.

- Marsupialization: it's a surgical procedure that consists of making a communication between the lymphocele and the peritoneal cavity, so that the lymph is absorbed. It has excellent results and low morbidity. It could be done by open abdominal incision or by laparoscopic approach, which is nowadays the first election (12-14) excluding exceptions, with or without associated omentoplasty in order to increase the reabsortion and decrease the incidence of relapses (6). Marsupialization can only be performed when an infection is ruled out.

- Sclerotherapy: it has two steps: first puncture the collection and then to introduce antibacterial substance that scleroses and collapse the cavity. Tetracycline, ethanol, ampicillin and other substances have been used. In our Department we have been pioneers using povidone-iodine solution from 1982 (15), obtaining very good results.

From the four different procedures, the most used are both the marsupialization and the sclerotherpy, and the indication of one or another is the size (16) of the collection and sometimes its localization (5).

CONCLUSIONS

The liquid collections around the renal allograft are very frequent (2), although only a few of them need to receive a treatment, which is indicated depending on the clinical repercussion.

The diagnostic study is focused to determine the nature of the collection. The four fundamental collections are: abscess, hematoma, urinoma and lymphocele. The protocol of our Department has as main diagnostic test the biochemical analysis of the liquid, obtained by percutaneous puncture. Also the ultrasound and the CT scan are important.

For treating the lymphocele there are different techniques, standing above the marsupialization and the sclerotherpy, and prescribing one or the other depending on the special characteristics of the case and the size of the collection. The laparoscopic marsupialization is a safe, effective and relatively simple method, and it's considered the first election when surgery is indicated (12-14). There are a few exceptions to indicate open surgery, like complications of the surgical wound or little lymphoceles with close relation to vital structures for the allograft (14).

The clinical case presented was treated by laparoscopic marsupialization because of the size, with good results

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