Research Article

THE FREQUENCY OF LYMPHOCELE AND ITS MANAGEMENT IN POST RENAL TRANSPLANT PATIENTS IN A TERTIARY CARE HOSPITAL OF KHYBER PAKHTUNKHWA, PAKISTAN

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Abstract

Objective: To assess the frequency of lymphocele and its management in patients with live renal transplant.

Introduction: Renal transplant is the treatment of choice for patient with ESRD. Although it improve quality and increase life expectancy but it is not without major and minor complications one of that complication is lymphocele that cause that cause severe morbidity and even graft dysfunction. We conducted this study to find the frequency of lymphocele in patients undergoing renal transplant.

Materials and Methods: This is a retrospective study conducted in the Institute of Kidney Diseases and Transplant. The files of all those patients were analyzed who underwent live donor renal transplant from Jan 2015 to July 2020. The demographic and all relevant data were entered in a proforma. For analysis we entered data in SPSS version 23.

Results: From Jan 2015 to July 2020 42 renal transplants were performed. Male patients were 32 (76 %) and female were 10 (23.8%) ratios male to female 3.2 to 1. Mean age 37.5 years (range 50 to 25 years). Only 5 (11.9%) patients developed lymphocele out of which 3 patients (7.1%) developed mild lymphocele without any renal dysfunction and were treated conservatively while two (4.7%) presented with hydro nephrosis and renal dysfunction.

One of them respond to percutaneous aspiration and tetracycline installation while other one after failed response to percutaneous aspiration and sclerotherapy was treated by laparoscopic intraperitoneal drainage.

Conclusion: Lymphocele is one of the common complications after renal transplantation which responds to different treatment modalities ranging from conservative treatment to minimally invasive or even major interventions in the form of open surgical technique or laparoscopic interventions in few cases.

Keywords: Lymphocele, Renal Transplant, Sclerotherapy

INTRODUCTION

Renal transplantation is now a commonly performed procedure all over the world. It is the treatment of choice for the patients with end stage renal disease (ERDS) (1). But like most of the major surgical procedures renal transplantation also has post-operative complications. These range from mild to severe form of complications and mortality (2). Lymphocele is one of these common complications. It may be asymptomatic in some cases while on the other hand it can cause severe pain and even result in allograft dysfunction. It can also cause pressure on the kidney transplant, ureter, bladder, and adjacent vessels with deterioration of graft function, ipsilateral leg edema, and external iliac vein thrombosis. Peritoneal fenestration is a well-established method for treatment. The risk factors for lymphocele formation are age, high BMI, diabetes mellitus, graft rejection and mTOR inhibitors (3). There are different ways to prevent lymphocele. These include meticulous dissection around renal hilum and in the recipient iliac fossa, lymphatics channels ligation or coagulation.

After lymphocele production there are different options for the treatment depending upon the size and symptoms ranging from conservative measures to re-exploration. One maneuver frequently done in the
presence of a suction drain is to release the vacuum to decrease the production of lymph (4). We conducted
this study to find the frequency of the lymphocele and possible treatment options.

MATERIALS AND METHODS

This is a retrospective study conducted in the Institute of Kidney Diseases and Transplant. The files of
all those patients were analyzed who underwent live donor renal transplant from Jan 2015 to July 2020. All
the relevant data was entered in a proforma. Including the patients demographics, clinical data, follow up
and treatment for lymphocele. Data was analyzed by SPSS version 23.

RESULTS

A total number of 42 patients underwent renal transplant. All of them received kidney from live
donors. Among these n=32 patients (76.1%) were male and n=10 patients (23.8%) were females. The male to
female ratio was 3.2 to 1. Average age of the patients was 37.5 years (range 50 years maximum and 25 years
minimum). Maximum follow up in the patient was 36 months and minimum was 1 month with average
follow up of 19.5 months. Five patients developed lymphocele that comprised 11.9% of patients. Among
these five patients n=3 (7.1%) were diagnosed on routine checkup at 2nd week of transplant with no
significant change in allograft function and without any clinical symptoms. These patients respond to
conservative treatment with close follow up by weekly ultrasound, serum urea and serum creatinine. While
two patients (4.7%) presented with mild pain and swelling at site of graft. Both of them presented in the 2nd
week of their allograft transplantation. Both of these patients were readmitted. One of the patients had
developed hydronephrosis and raised urea and creatinine. Both of these treated by aspiration and installation
to tetracycline. The patient without hydronephrosis responded to two attempts of aspiration and injection of
sclerosing agents. While the other patient did not respond to 3 attempts of aspiration and installation.
Therefore we decided to perform a laparoscopic peritoneal drainage with marsupialization of the peritoneal
sac with a transperitoneal approach.

CONSORT TABLE OF RENAL TRANSPLANT PATIENTS WITH LYMPHOCELE AND
TREATMENT

<table>
<thead>
<tr>
<th>Total number of Recipients with lymphocele :05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic Patients diagnosed on routine checkup:</td>
</tr>
<tr>
<td>03</td>
</tr>
<tr>
<td>Symptomatic Patients: 02</td>
</tr>
<tr>
<td>Conservative treatment</td>
</tr>
<tr>
<td>Re admitted</td>
</tr>
<tr>
<td>Raised Creatinine &amp; Hydronephrosis</td>
</tr>
<tr>
<td>Normal creatinine and No Hydronephrosis</td>
</tr>
<tr>
<td>Aspiration &amp; instillation of tetracycline</td>
</tr>
<tr>
<td>Aspiration &amp; instillation of tetracycline</td>
</tr>
<tr>
<td>Performed a laparoscopic peritoneal drainage with marsupialization of the peritoneal sac</td>
</tr>
</tbody>
</table>

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### Table I. Showing demographics and follow up of transplant patients

<table>
<thead>
<tr>
<th></th>
<th>Male (n 1)</th>
<th>Female (n 2)</th>
<th>Ratio (n 2 : n 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of transplant patients (n)</td>
<td>42</td>
<td>32 (76.1%)</td>
<td>10 (23.8%)</td>
</tr>
<tr>
<td>Age</td>
<td>Youngest</td>
<td>Oldest</td>
<td>Average</td>
</tr>
<tr>
<td>In Years</td>
<td>25 years</td>
<td>50 years</td>
<td>37 years 6 months</td>
</tr>
<tr>
<td>Follow UP (Months)</td>
<td>Maximum</td>
<td>Minimum</td>
<td>Average</td>
</tr>
<tr>
<td></td>
<td>36 Months</td>
<td>1 month</td>
<td>19.5 month</td>
</tr>
</tbody>
</table>

### Table II. Showing presentation and treatment of Lymphocele

<table>
<thead>
<tr>
<th>Patient with Lymphocele</th>
<th>5</th>
<th>11.9%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic n (%)</td>
<td>3(60%)</td>
<td></td>
</tr>
<tr>
<td>Symptomatic n (%)</td>
<td>2 (40%)</td>
<td>(i) Present with swelling 1 (20%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) Present with graft dysfunction 1 (20%)</td>
</tr>
<tr>
<td>Treatment n (%)</td>
<td>Responded to Conservative treatment 3 (7.1%)</td>
<td>Percutaneous Aspiration &amp; Sclerotherapy 1 (2.3%)</td>
</tr>
<tr>
<td></td>
<td>Needed Intervention 2 (4.7%)</td>
<td>Laparoscopic treatment 1 (2.3%)</td>
</tr>
</tbody>
</table>

### DISCUSSION

Renal transplantation not only improves quality of life in ESRD patients but also prolongs the life expectancy of the patient compared to hemodialysis (5,6). Not surprisingly like all other major procedures, it is also not free of morbidity and mortality. Lymphocele is one of the complications that may cause severe morbidity and may even cause graft dysfunction if timely intervention is not being carried.

Generally its frequency ranges from 2% to 31% in different studies (7-9). In our study it was (5) 11.9%. In our study 3(60%) patients had no symptoms and diagnosed on routine ultrasound that is according to study conducted by (10). The most common symptoms with which lymphocele patients present are swelling and mild discomfort in the site of transplant. One patient (20%) presented with graft dysfunction with raised urea and creatinine and also had complaint of swelling and discomfort at the site of anastomosis. Some studies show that lymphocele may cause graft dysfunction by causing hydronephrosis due to mechanical obstruction (11). Majority of the studies have shown that most patients would have no symptoms diagnosed on routine checkup (12).

Lymphocele in transplant, most cases will respond to conservative treatment. The patient that need intervention mostly respond to minimally invasive procedure like percutaneous aspiration with or without sclero-therapy while very few need major intervention in the form open or laparoscopic surgery (13). We treated one patient 20% with aspiration and sclerosing agent installation while one case (20%) needed laparoscopic drainage into peritoneal cavity with marsupialization of the peritoneal opening to avoid closure of the sac containing lymph. Laparoscopic fenestration with marsupialization is considered the treatment of choice by many authors (14, 15). Lymphocele is notorious for recurrence. After aspiration 59% reoccurred while with laparoscopic fenestration only 8% reoccurred (16).

### CONCLUSION

Lymphocele is one of the common complications of renal transplantation. It may cause morbidity and graft dysfunction. Most cases respond to conservative management while a few needs minimal invasive procedure in the form aspiration with or without sclerosing agent installation while very few
needs major surgical intervention laparoscopically or in the form of open surgery. Prevention is better than cure however there is no proven evidence to define the define measures that would prevent lymphocele formation. Further studies needed to define precaution and methods that have to be adopted during renal transplant to prevent the formation of lymphocele.

**Conflict of Interest:**

Authors declare no conflict of interest.

**References:**

