INTRODUCTION

Donor B lymphocyte contained in solid organ allografts can produce anti erythrocyte antibodies resulting in a condition known as the Passenger Lymphocyte Syndrome.\[1\] Typically the antibodies are detected 1 to 2 weeks after transplant as a Positive DAT.2 Elution reveals anti A and/or anti B. These patients may develop hemolysis, which can be severe in rare cases, most patient recover and the antibody usually disappear in about 1 month.\[2,3\] In kidney transplant patients, cyclosporine increases the incidence of Passenger Lymphocyte Syndrome so that 30% of the patients develop antibodies and 17% develop hemolysis.\[3\] It is predominantly mediated by ABO isoagglutinins and rarely by Rh antibodies.

CASE REPORT

We report a 33 year old male with stage IV kidney disease on hemodialysis. He received a live donor transplant (from his Mother). The maternal blood group is O Rh D Positive and recipient blood group is A Rh D Negative. The patient was discharged.

DISCUSSION

PLS is a disease in which donor lymphocytes produce antibodies to the recipient’s RBC antigens, causing alloimmune hemolysis.\[4\] It is a rare condition that
occurs by formation of antibodies to the ABO system (Rh less frequently, rarely anti-D) and is isolated from anti-c, anti-e, anti-Kell, anti-Jk, and anti-FY3. It manifests itself in the first weeks after transplantation as hemolytic anemia with positive direct Coombs test. The study of the anemia of our patient showed a positive result of direct Coombs. Two alloantibodies against the Rh system were indentified: anti-D and anti-E. This was probably due to a residual population of donor cells that were Rh-negative. We have identified only 1 PLS case following simultaneous pancreas-kidney transplantation in the English literature.\(^5\) Our case the first with PLS following kidney transplantation with anti-D. Patient received treatment with prednisone, tacrolimus, and MMF and basiliximab induction therapy on day 0 and 4, blood transfusion was not necessary as this caused less severe hemolytic anemia.\(^6\) Usually anemia is mild, sometimes it may cause renal failure, DIC, and multi-organ failure. The treatment consists of high dose corticosteroids and, when necessary, a transfusion with the blood type of the donor. In refractory cases, one can use plasmapheresis or intravenous immunoglobulin treatment with rituximab.\(^7\)

**Immunohematological workup:**

**Table 1**

1. Blood grouping and Rh typing: A positive.
2. DAT 4+ positive
3. Monospecific DAT shows the presence of IgG Antibodies.
4. IAT weak positive.
5. Antibody screening and Identification shows the presence of Anti D Antibody.
6. Acid Elution done on DAT positive cells
7. Eluate showed the presence of Anti D Antibody.

<table>
<thead>
<tr>
<th>IH work up</th>
<th>Sex</th>
<th>Age</th>
<th>Blood group</th>
<th>DSA</th>
<th>IAT</th>
<th>DAT</th>
<th>Anti body screen &amp; identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE Tx</td>
<td>M</td>
<td>33</td>
<td>A+VE</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
</tr>
<tr>
<td>POST Tx</td>
<td>M</td>
<td>33</td>
<td>A+VE</td>
<td>Neg</td>
<td>WEAK</td>
<td>4+</td>
<td>ANTI -D</td>
</tr>
<tr>
<td>DONOR</td>
<td>F</td>
<td>55</td>
<td>O-VE</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
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</tbody>
</table>

**CONCLUSION**

PLS is a rare condition and it should be suspected in the first few weeks after transplantation. It is usually a sudden onset of hemolytic anemia in patients with a SOT with Rh or ABO incompatibility. Our case is the first case to be reported with PLS following kidney transplantation with anti-D. A categorical approach to post transplant patients with Rh or ABO incompatibility is mandatory for the successful outcome.

**REFERENCES**