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Cecum Lymphoma after Renal Transplant (Case Report)

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Abstract

Background: Renal transplantation is a life-saving procedure for patients with end-stage renal disease, but it raises a risk for lymphoma.

Case Presentation: A 52-year-old male presented with abdominal pain, vomiting, and abdominal distention 13 years after being transplanted. Imaging and histopathological examination revealed intestinal lymphoma.

Discussion: This case, because the patient was schronically cytologically immunosuppressed and simply presented with non-specific signs and symptoms with respect to the abdomen, serves to emphasize the importance of recognizing malignancies in immunocompromised patients.

Conclusion: The case was employed by the authors to primarily emphasize the requirement for early diagnosis and proper handling of intestinal lymphoma with renal transplant recipients; regular follow-up and vigilance for possible complications are also important.

Keywords: Intestinal lymphoma, Renal transplantation, Immunosuppression, Malignancy

1. Introduction

Renal transplantation is a life-saving intervention in patients with end-stage renal disease. It is not without risk, however: transplant patients have either said to have an increase in the chances of developing lymphomas (cancer affecting the immune system) (Cockfield et al., 2018). The incidence of lymphoma is 1–5% in kidney transplant recipients, whereas in the general population, the rate is manifold lower (Opelz & Döhler, 2016).

The majority of post-transplant lymphoproliferative disorders (PTLDs) originate from B cells, cecum being a rare site for PTLDs (Gross et al., 2017). Cecum lymphoma is a particularly aggressive and difficult form of PTLD with limited reports found in literature (Bhatia et al., 2018). Nonspecific symptoms are often the main things presenting renal transplant recipients with cecum lymphoma; these, along with loss of weight and abdominal pain, make both the early diagnosis and initiation of treatment extremely difficult (Kamel et al., 2019).

The prognosis for cecum lymphoma in renal transplant recipients is basically poor, as the reported 5-year survival rates are less than 20% (Shapiro et al., 2019). Environmental and genetic factors, along with the effects of different viral infections, including the use of immunosuppression and other genetic predispositions, may contribute to increased lymphoma risk (Hoshida et al., 2019).

On one hand, the immunosuppressive agents per se could contribute to increased risks for lymphoma by suppressing one or other mechanisms of immune response, thus permitting neoplastic cells to proliferate and all these factors in totality once again define this condition (Gross et al., 2017). An increased risk for a neoplasm in renal transplant recipients may also be suspected for some viral infections such as Epstein-Barr virus or cytomegalovirus (Hoshida et al., 2019).

Apart from the cancer, other genetic predispositions may have a role to play as regards disease pathogenesis in renal transplant patients. Suppose other genetic mutations (known to contribute to development) in

certain genes, such as the TP53 tumor suppressor gene, could signify an increase in the risk of lymphoma in these patients (Shapiro et al., 2019). Since this cecum lymphoma is a rare aggressive form of PTLTD that occurs in renal transplant recipients, timely diagnosis and treatment would improve the outcome of these patients. Another area that needs exploring into is the pathogenesis of cecum lymphoma and means to prevent it and associated treatments.

2. Materials and methods

2.1. Case presentation

A 52-year-old man came to our clinic complaining of abdominal pain, vomiting, and swelling of the abdomen. He underwent renal transplantation 13 years ago and received treatment for immunosuppression.

2.2. Clinical evaluation

The thorough clinical evaluation of the patient included physical examination, laboratory tests, and imaging studies. Laboratory investigations comprised a complete blood count, blood urea, and serum creatinine. Imaging was with CT scan without contrast.

2.3. Surgical intervention

The patient referred for emergency laparotomy was found with a distended small bowel, ileocecal mass, and with multiple enlarged lymph nodes. Resection of 9 cm of terminal ileum and 13 cm of corresponding colon was performed, with removal of affected regional lymph nodes. This was followed by an end-to-end anastomosis.

2.4. Histopathological evaluation

The tissue section that was resected was sent to histopathology, where a poorly differentiated malignancy of the cecum was found. The tumor was classified as a high-grade non-Hodgkin's lymphoma having the features of diffuse large B-cell lymphoma.

2.5. Immunohistochemistry

Immunohistochemical studies were performed, which showed diffuse strong positivity for CD20 and negative for CD3.

2.6. Staging

The tumor was staged as pT3 pN1 by the Paris staging system for gastrointestinal lymphoma.

2.7. Oncological management

The patient was referred to the oncology department for further management. Bone marrow aspiration was done, which showed no evidence of marrow involvement by neoplastic or lymphomatous process. A CT scan showed multiple para-aortic and mesenteric lymph nodes. The patient received RCHOP, with the first cycle dated November 28, 2024.

3. Results

3.1. Clinical presentation

The patient, a 52-year-old male, showed signs of abdominal pain, vomiting, and abdominal distension. The patient had undergone renal transplantation 13 years prior and was on immunosuppressant therapy.

3.2. Laboratory results

3.2.1. Lab investigations depicted

- Blood urea: 71.6 mg/dL
- Serum creatinine: 1.1 mg/dL
- White blood cell count: $8.0 \times 10^3/\text{mL}$
- Hemoglobin: 10.6 g/dL
- Platelet count: $264 \times 10^9/\text{L}$

3.3. Imaging results

Non-contrast computed tomography (CT) scan demonstrated:

- dilatation of intestines along with localized wall thickening in the terminal ileum.
- regional lymphadenopathy.

3.4. Histopathological results

Histopathological evaluation of the resected tissue revealed: poor, differentiated cecal malignancy; high-grade non-Hodgkin's lymphoma, diffuse large B-cell type; pT3 pN1 in the Paris classification for gastrointestinal lymphoma staging.

3.5. Immunohistochemistry results

Histological studies reveal-

- Diffuse strong positivity to CD20
- Negative results for CD3

3.6. Oncological results

The patient was first treated with R-CHOP therapy on November 28, 2024. The clinical response to treatment was being studied.

4. Discussion

The sacrum had complaints of abdominal pain, vomiting, and abdominal distention that culminated in intestinal lymphoma diagnosis. Histopathological evaluation of the resected tissue confirmed the diagnosis-most X-ray monitoring shows high-grade non-Hodgkin's lymphoma, diffuse large B-cell type.

Singular history notes renal transplant surgery some 13 years before, together with immunosuppressive therapy. L.T.R. recipients are at greater risk of developing lymphoproliferative disorders, including lymphoma, attributable to chronic immunosuppression (Cockfield et al., 2018). In renal transplant recipients, the estimated risk ratio of developing lymphoma in the first 10 years after transplantation ranges from 1–5% and is considerably elevated in contrast to the general population (Opelz & Döhler, 2016).

The diagnosis of intestinal lymphoma is a reminder to keep in mind the need for consideration of a malignancy in forming the differential diagnosis of abdominal symptoms in immunosuppressed patients. Intestinal lymphoma is rare; it often presents with nonspecific symptoms, thereby complicating early diagnosis (Gross et al., 2017).

The diagnosis of the tumor was that of a very aggressive high-grade form of non-Hodgkin lymphoma of large-cell variety. This is the type of lymphoma that is generally treated with R-CHOP chemotherapy, which was administered for this patient (Shapiro et al., 2019). Intestinal lymphoma: extremely rare; aggressive; it demands immediate intervention. Hence the case reminds that malignancy should be included in the differential diagnosis of an abdominal manifestation in any of these immunosuppressed patients.

5. Conclusion

This case report illustrates a rare diagnosis of intestinal lymphoma as the cause of bowel obstruction in a renal transplant recipient, emphasizing the need to differentiate malignancies in the differential diagnosis of abdominal symptoms of immunosuppressed patients. This patient was a case of chronic immunosuppression with non-specific abdominal symptoms, thus requiring a high index of suspicion for a case of intestinal lymphoma. The diagnosis of intestinal lymphoma was confirmed by histopathology, and R-CHOP chemotherapy was initiated. This case reiterates the need for timely suspicion and diagnosis of intestinal lymphoma in immunosuppressed patients to improve survival rates. Periodic follow-up and vigilance of renal transplant patients with respect to the occurrence of complications, malignant inclinations, and timely detection of the same have shown to improve outcomes. Thus, when any immunosuppressed patient presents abdominal pain, intestinal lymphoma should be within the differential diagnosis, and diagnosis and treatment should be expedited to maximize outcomes.

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