A Comparison of Two Cases of Acute Graft Versus Host Disease Following Liver Transplant

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INTRODUCTION :

Acute graft versus host disease (aGVHD) is a rare complication of orthotopic liver transplant (OLT) with estimated 75-85% mortality. GVHD is a common complication of an allogeneic bone-marrow transplant. The incidence of aGVHD in OLT is about 0.1%, and presents with rash, fever, diarrhea, and pancytopenia. Diagnosis is difficult given the non-specific symptoms, overlapping infections, and drug reactions in patients on immunosuppression. Mortality is associated with bone marrow failure. Early diagnosis and treatment are vital to survival. This report aims to juxtapose two cases of aGVHD after OLT. Chart reviews were conducted to obtain the history and progression of two patients with post-liver transplant GVHD.

CASE SERIES DESCRIPTION

First case

The first case is a Hispanic patient who underwent OLT for decompensated HCV cirrhosis. The patient presented 3 months postop with a diffuse rash. He was admitted two weeks later with a worsening rash, fever, flu-like symptoms, and diarrhea. GVHD was diagnosed by skin biopsy and treated with steroids and ruxolitinib (JAK1/2 inhibitor).

The patient improved but ultimately expired six months later due to bone marrow failure and infectious complications (invasive fungal sinusitis, VRE bacteremia, clostridium difficile infection, and multifocal pneumonia).

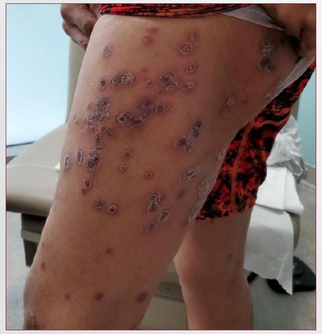


Figure 1: Findings of GVHD on Skin

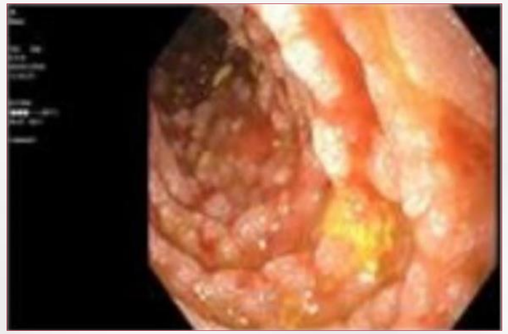
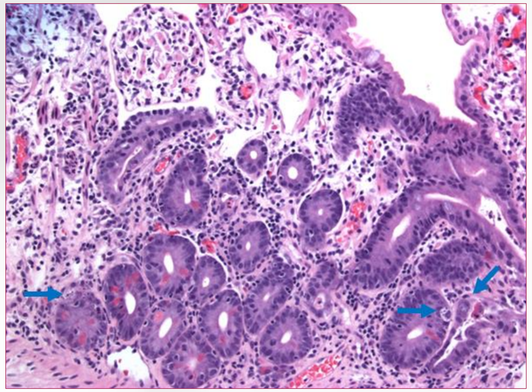


Figure 2: Endoscopic Findings of GVHD in Duodenum



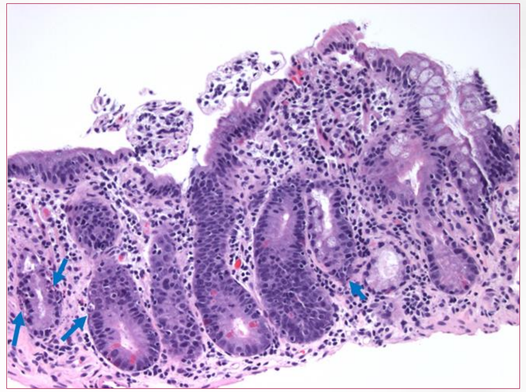
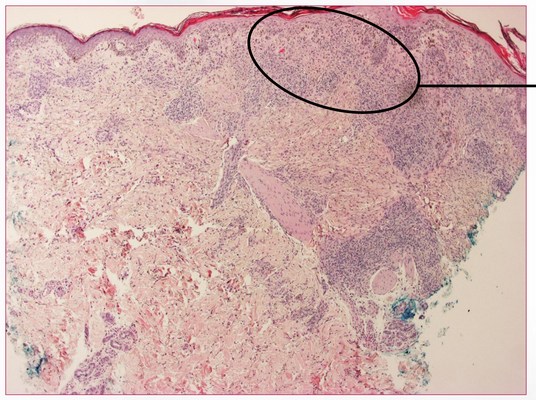


Figure 3a & 3b: Morphologic findings of GVHD in duodenal biopsy. Fragments of duodenal mucosa showing increased crypt apoptosis (blue arrow) in a background of focal epithelial injury (Hematoxylin and eosin x 200)



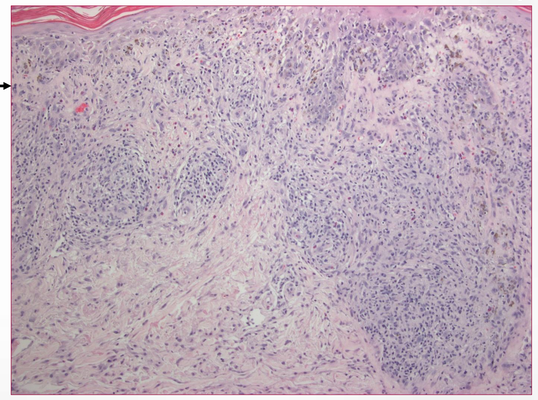


Figure 4a & 4b. Morphologic findings of GVHD in skin punch biopsy. Skin fragment in 40x (a) and 100x (b) magnification, showing prominent lichenoid interface alteration with many lymphocytes scattered into the epidermis along with many dyskeratotic keratinocytes. There is a brisk ill-defined granulomatous infiltrate in the superficial dermis (A. Hematoxylin and eosin x 40; B. Hematoxylin and eosin x 100)

Second case

The second case is a Caucasian patient who underwent OLT for decompensated NASH cirrhosis. The patient was admitted 3 weeks postop with fever, cough, sore throat, and headache. Diarrhea and rash developed shortly after, and extensive infectious workup was unremarkable. aGVHD was diagnosed by skin biopsy and treated with steroids and ruxolitinib.

The patient's clinical course was complicated by pseudomonas bacteremia, abdominal surgical wound infection, and ecthyma gangrenosum of his right thigh, requiring surgical debridements and IV antibiotics.

Despite many complications, he is living to this date (over 2.5 years after the diagnosis of GVHD) and doing well.

DISCUSSION

Both cases of aGVHD occurred at the same center less than one month apart, but one was fatal. Both patients received MMF as part of their immunosuppression (Per studies, MMF reduces the risks of fatal GVHD). Only the second patient (who survived) received basiliximab for induction (Studies show that risks of fatal GVHD increase in association with basiliximab induction).

The principal difference between the two cases is the time of symptom onset and treatment initiation. The surviving patient had earlier symptom onset, a rapid diagnosis, and early-onset treatment.