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Title:

Sonographic evaluation of spleen size, portal vein diameter, and laboratory test values after orthotropic liver transplantation

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Introduction

Splenomegaly and thrombocytopenia are common pathological problems in patients with chronic liver failure. This study aimed to follow several parameters such as spleen size, portal vein diameter, and several laboratory tests in patients after orthotropic liver transplantation.

Method

Three hundred twenty-five patients who underwent liver transplants participated in this prospective study between 2013 until 2021. Laboratory data including complete blood count, and sonographic data including spleen size and portal vein diameter were prospectively collected from patients' records. Patients were divided into 8 groups according to the etiology of liver disease. Data was obtained at 3, 6, 9, 12, 18, and 24 months after the transplantation

Result

- ✓ Our study showed spleen size before and after transplantation was significantly different in etiologic groups. Also in all groups except Wilson's group, spleen size reduced significantly after liver transplantation. In our follow-ups spleen size and portal vein diameter reduced during the time but it's not significant.
- ✓ Leucocytes (WBC), hemoglobin, and platelets increased in patients after liver transplantation. The average means of WBC and platelet were significant differences between etiologic groups. Also, the average means of WBC and platelet alteration during the time were significant. However, the mean of hemoglobin and INR were not a significant difference between etiologic groups, and their changes during the time were not significant.
- ✓ The difference in spleen size after transplantation was significant in comparison between patients with leukopenia and thrombocytopenia after one year and patients with normalized WBC and platelets before one year.

Conclusion

The size of the spleen after transplantation can affect the time to normalization of WBC and platelet count to improve thrombocytopenia. Our result showed that LT is an effective treatment for splenomegaly and hypersplenism related to liver failure and cirrhosis.