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Poster Session VI

Viral hepatitis and HIV/HCV co-infection

EFFICACY OF HBV VACCINATION IN PEDIATRIC LIVER TRANSPLANT RECIPIENTS

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Objectives. Patients who undergo liver transplantation (LTx) should avoid any liver injury and therefore vaccination against hepatitis B and optimal level of antibodies against hepatitis B surface antigen (HBsAb) have a fundamental role before and after transplantation. The aim of this study was to analyse levels of HBsAb concentrations before and after transplantation in pediatric patients who underwent liver transplantation at The Children's Memorial Health Institute in Warsaw.

Methods. A group of 150 pediatric patients who underwent liver transplantation at The Children's Memorial Health Institute in Warsaw between 2001- 2010 was analysed retrospectively. Before transplantation patients were immunized with hepatitis B vaccine (Engerix, Euvax, Hepavax). The optimal vaccination scheme before LTx was 0-1 and 6 months. However the time of the completion of the immunization schedule depended on the patient's medical condition (elective vs emergency surgery). HBsAb were measured before LTx and then monitored systematically. Basic schemes of immunosuppression after LTx included: tacrolimus and mycophenolate mofetil (n=99), tacrolimus and prednisone(n=34); tacrolimus, mycophenolate mofetil and prednisone (n=11). Six patients received other immunosuppression therapy.

Results. The study group consisted of 82 females and 68 males. Median age at the liver transplantation was 1.28 years (range 0.1- 18.6 years). In most cases liver was transplanted from the living - related donor (n= 108), and 42 transplants were of cadaveric origin. Indications for LTx included: biliary atresia (n=80), liver cirrhosis (n=15), acute liver failure (n=8), hepatoblastoma (n=7), autoimmune hepatitis (n=6), alpha-1 antitrypsin deficiency (n=4), Alagille syndrome (n=3), liver angioma (n=3), progressive familial intrahepatic cholestasis (n=2), and others (n=22). The median concentration of HBsAb directly before transplantation was 288 IU/L (range from <0.1 IU/L to >1000 IU/L) and after transplantation (median 13 days after LTx) - 338 IU/L (range from 20 IU/L to >1000 IU/L). In 43% of children the rapid decline of HBsAb was observed (median concentration before LTX 644 IU/L vs. 242 IU/L after LTx). In 10% of patients the level of HBsAb remained relatively constant (median before and after LTx >1000 IU/L) and in 56% of patients an increase of HBsAb was found (median concentration before LTx 117 IU/L vs. 435 IU/L after LTX).

Conclusion. Further long term follow up is necessary to identify factors affecting the level of immune response to hepatitis B vaccine and responsible for a rapid decline of HBsAb in some transplant patients.