Pattern of Bacterial and Fungal Infections in the First 3 Months After Pediatric Living Donor Liver Transplantation: An 11-Year Single-Center Experience

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Abstract:

Infection after pediatric living donor liver transplantation (LDLT) is a major cause of morbidity and mortality. Here, we sought to determine the incidence, timing, location, and risk factors for bacterial and fungal infections. We retrospectively investigated infection for 3 postoperative months in 345 consecutive pediatric patients (56.2% were females) who underwent primary LDLT at Kyoto University Hospital, Japan. A total of 179 patients (51.9%) developed at least 1 bacterial and/or fungal infection episode, with an infection rate of 2.5 per patient. The predominant infection site was the surgical site (52%). Most of the bacterial and fungal infection occurred within the first month. Enterococcus species followed by multidrug-resistant Pseudomonas aeruginosa and methicillin-resistant Staphylococcus aureus were the predominant bacterial pathogens. All fungal isolates were Candida species. Prolonged preoperative hospital stay more than 7 days (P = 0.025) and bile leak (P = 0.047) were independent predictors of bacterial infection. Preoperative ascites (P = 0.009) and prolonged insertion of intravascular catheters (P = 0.001) independently predicted fungal infections. Bacterial and fungal infections were responsible for 42.9% of the causes of death in our study. To avoid bacterial and fungal infections after LDLT, broader-spectrum prophylaxis to cover the range of organisms seen in these infections should be considered as a more favorable treatment regimen to prevent prophylaxis failure, especially for patients with a preoperative hospital stay more than 7 days or operative complications in the form of a bile leak. Early drain removal and prophylactic antifungal drugs should be considered for patients with preoperative ascites. Cooperation between attending physicians and infectious disease physicians can improve the outcome of patients after LDLT.

Published In:

LIVER TRANSPLANTATION, Vol. 17, PP. 976–984