Practice variation in *Aspergillus* prophylaxis and treatment among lung transplant centers: a national survey

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Transplant Infectious Disease

DOI: 10.1111/tid.12337

Volume 17, Issue 1, pages 14–20, February 2015

Abstract

Background

Fungal infections remain a substantial cause of mortality in lung transplant (LTx) recipients, yet no comprehensive consensus guidelines have been established for antifungal prophylaxis and treatment of *Aspergillus* infection in these patients.

Methods

A cross-sectional study surveyed the directors from 27 of 64 (45.5%) active LTx centers in the United States to examine clinical practice variations in *Aspergillus* prophylaxis and treatment of colonization and invasive aspergillosis (IA) in LTx recipients.

Results

Antifungal prophylaxis increased from 52.3% in 2011 to 77.8% in 2013, with the most common agent being inhaled amphotericin B (61.9%), followed by oral voriconazole (51.9%). A total of 74.1% of centers treat *Aspergillus* airway colonization, with 80.0% of centers using oral voriconazole. All centers treat IA, with 92.6% using oral voriconazole. The duration of *Aspergillus* prophylaxis and treatment of colonization or IA varied widely across centers from 3 months to >1 year. A total of 51.9% of centers reported internal practice variations in the treatment of IA. Factors guiding treatment decisions included microbiologic culture and sensitivity (74.1%), ease of administration (59.3%), interaction with other medications (55.5%), side effect profile (51.8%), and center guidelines (48.1%). Although 85.2% of LTx centers recommended routine skin cancer screening for LTx recipients, only 44.4% of LTx centers reported having a dedicated transplant dermatologist.

Conclusion

Most active US LTx centers currently employ antifungal prophylaxis and treat *Aspergillus* colonization and IA, although choice of agent, route of administration, and duration of therapy across and within centers continue to differ substantially. The number of transplant dermatologists available among US LTx centers is limited. Overall, a strong need exists for more comprehensive consensus guidelines to direct antifungal prophylaxis and treatment of *Aspergillus* infection in LTx recipients.

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High-risk age window for mortality in children with cystic fibrosis after lung transplantation

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Pediatric Transplantation

Volume 19, Issue 2, pages 206–210, March 2015

Hayes D Jr, McCoy KS, Whitson BA, Mansour HM, Tobias JD. (2015) High-risk age window for mortality in children with cystic fibrosis after lung transplantation. Pediatr Transplant, 19: 206–210. DOI: 10.1111/petr.12401.

Abstract

LTx in children with CF remains controversial. The UNOS database was queried from 1987 to 2013 for CF patients <18 yr of age at time of transplant. PCHR model was used to quantify hazard of mortality. 489 recipients were included in the survival analysis. The hazard function of post-transplant mortality was plotted over attained age to identify age window of highest risk, which was 16–20 yr. Unadjusted PCHR model revealed ages immediately after the high-risk window were characterized by lower hazard of mortality (HR = 0.472; 95% CI = 0.302, 0.738; p = 0.001). After adjusting for potential confounders, the decline in mortality hazard immediately after the high-risk window remained statistically significant (HR = 0.394; 95% CI: 0.211, 0.737; p = 0.004). Hazard of mortality in children with CF after LTx was highest between 16 and 20 yr of attained age and declined thereafter.

http://onlinelibrary.wiley.com/doi/10.1111/petr.12401/abstract?campaign=woletoc

The Perioperative Management of Patients Undergoing Combined Heart-Liver Transplantation

Transplantation:
January 2015 - Volume 99 - Issue 1 - p 139–144
doi: 10.1097/TP.0000000000000231

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Abstract

Background: Combined heart-liver transplantation (CHLT) is an uncommonly performed procedure for patients with coexisting cardiac and liver disease.

Methods: A retrospective review was performed of patients undergoing CHLT at our institution from 1999 to 2013. Information related to preoperative organ function, intraoperative management, surgical approach, transfusions, postoperative findings, and 30-day mortality was reviewed.

Results: Twenty-seven CHLT were performed, with 4 of the 27 including simultaneous kidney transplantation. Familial amyloidosis was the indication for 21 CHLTs (78%), and 12 of these explanted livers were used for domino transplantations. Nineteen patients (70%) were receiving inotropic infusions at the time of organ availability. Median preoperative model for end-stage liver disease score was 12. Liver transplantation immediately preceded cardiac transplantation in 2 of the 27 cases because of the presence of high titer donor-specific antibodies and the potential of the liver to lead to a reduction in the antibody titer. Venovenous bypass was used in 14 operations (52%) which were performed with the caval interposition approach to liver transplantation, cardiopulmonary bypass during liver transplantation in two cases (7%), and no bypass in 11 operations (41%) performed with caval sparing (piggyback) surgical technique. Postoperatively, median duration of mechanical ventilation, intensive care unit stay, and hospital stay until discharge were 1 day, 5.5 days, and 15 days, respectively. Transfusions in the first 48 hr after CHLT were not substantial in most patients. One patient died within 30 days of CHLT.

Conclusion: Combined heart-liver transplantation is a life-saving operation that is performed with relatively low mortality and can be successfully performed in select patients with congenital or acquired cardiac disease.