

SYSTEMIC FUNGAL INFECTIONS IN RENAL TRANSPLANT RECIPIENTS

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OBJECTIVES

Fungal infections are an important cause of morbidity and mortality in renal transplant recipients. These infections account for 5% of all infections in renal transplant recipients. The aim of this study was to estimate the incidence of systemic fungal infections in renal transplant recipients in a single centre from South India and to identify the main fungal agents.

METHODS

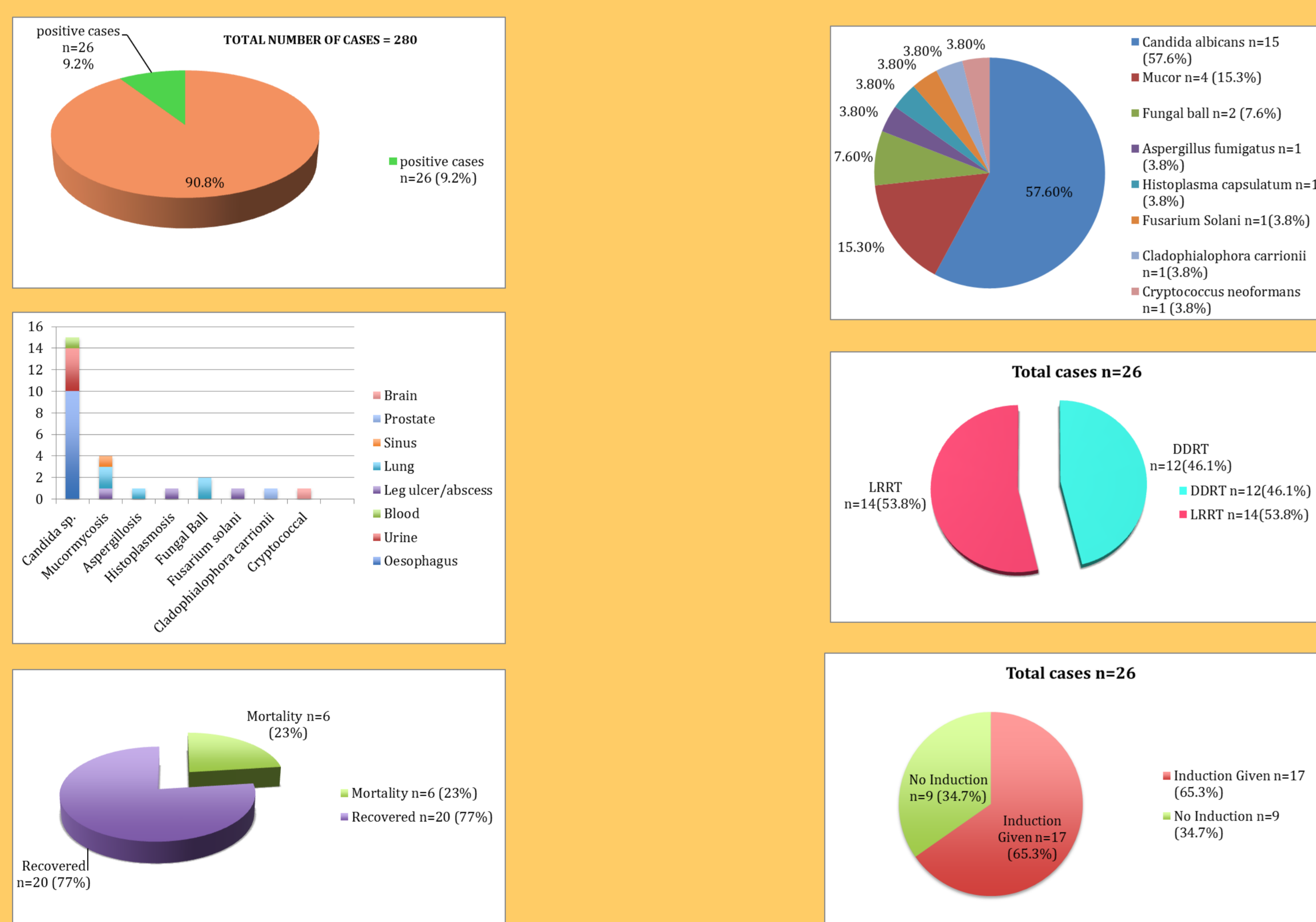
It is a retrospective study of invasive fungal infections in renal transplant recipient reported in our hospital November 2008 to November 2015.

RESULTS

In our study 280 post renal transplant recipients were studied retrospectively, out of these 26 cases (9.2%) tested positive for systemic fungal infection. Deceased donor transplant recipients accounted for 46.1% (n=12) cases, whereas live related renal transplant accounted for 53.8% (n=14) of the cases. Out of 26 cases with systemic fungal infection 65.3% (n=17) received induction therapy. Induction agents used were Basiliximab, in 88% of the cases (20 mg IV in 100 ml Normal saline two hours prior to the surgery), Antithymocyte globulin 5.8% (150 mg IV in 500 ml dextrose over 4-6 hours intraoperatively) and Dacluzimab 5.8% (50 mg IV 2 hours prior to the surgery). Of the total cases of systemic fungal infections Candida species constituted 57.6% (n=15), Mucormycosis 15.3% (n=4), Aspergillosis 3.8% (n=1), Histoplasmosis 3.8% (n=1), Fusarium solani 3.8% (n=1), Cladophialophora carrionii 3.8% (n=1), Cryptococcus 3.8% (n=1), Fungal ball 7.6% (n=2).

Mortality occurred in 23% (n=6) of the cases.

Graphs and charts



CONCLUSIONS

1. The use of newer and more-effective immunosuppressive agents in recent years is associated with increasing rates of fungal infections in renal transplant recipients, and the early detection of fungal infections and proper therapy are important in improving survival and reducing mortality.
2. To improve the prognosis, a high index of suspicion is necessary in renal transplant recipients. Proper empiric therapy requires accurate information about colonization and the antifungal susceptibility of the isolated organisms.
3. Quantitative tests (such as sandwich enzyme-linked immunosorbent assays or molecular assays) that directly detect the protein products or nucleic acids of the organisms should be used. Quantitative laboratory assays that are based on molecular techniques or antigen detection, and that do not depend on invasive procedures, are needed for routine monitoring of transplant patients.

REFERENCES:

1. R. Patel and C. V. Paya, "Infections in solid-organ transplant recipients," Clinical Microbiology Reviews, vol. 10, no. 1, pp. 86-124, 1997.
2. Adult vaccination coverage--United States, 2010. MMWR Morb Mortal Wkly Rep. 2012;61(4):66-72.
3. Safdar N, Slattery WR, Knasinski V, Gangnon RE, Li Z, Pirsch JD, Andes D. Predictors and outcomes of candiduria in renal transplant recipients. Clin Infect Dis. 2005;40(10):1413-1421.
4. Tharayil John G, Shankar V, Talaulikar G, et al. Epidemiology of systemic mycoses among renal-transplant recipients in India. Transplantation. 2003;75(9):1544-1551.
5. Abbott KC, Hypolite I, Poropatich RK, et al. Hospitalizations for fungal infections after renal transplantation in the United States. Transpl Infect Dis. 2001;3(4):
6. P. Badiee and A. Alborzi, "Invasive fungal infections in renal transplant recipients," Experimental and Clinical Transplantation, vol. 9, no. 6, pp. 355-362, 2011.
7. Singh N, Avery RK, Munoz P, Pruett TL, Alexander B, Jacobs R, Tollemar JG, et al. Trends in risk profiles for and mortality associated with invasive aspergillosis among liver transplant recipients. Clin Infect Dis. 2003;36(1):46-52.
8. K. S. Chugh, V. Sakhuja, S. Jain et al., "Fungal infections in renal allograft recipients," Transplantation Proceedings, vol. 24, no. 5, pp. 1940-1942, 1992.
9. Pappas PG, Alexander BD, Andes DR, Hadley S, Kauffman CA, Freifeld A, Anaissie EJ, et al. Invasive fungal infections among organ transplant recipients: results of the Transplant-Associated Infection Surveillance Network (TRANSNET). Clin Infect Dis. 2010;50(8):1101-1111.
10. De Pauw B, Walsh TJ, Donnelly JP, Stevens DA, Edwards JE, Calandra T, Pappas PG, et al. Revised definitions of invasive fungal disease from the European Organization for Research and Treatment of Cancer/Invasive Fungal Infections Cooperative Group and the National Institute of Allergy and Infectious Diseases Mycoses Study Group (EORTC/MSG) Consensus Group. Clin Infect Dis. 2008;46(12):1813-1821.

