

Diagnostic Bronchoscopy in Kidney Transplant Recipients with Acute Respiratory Failure

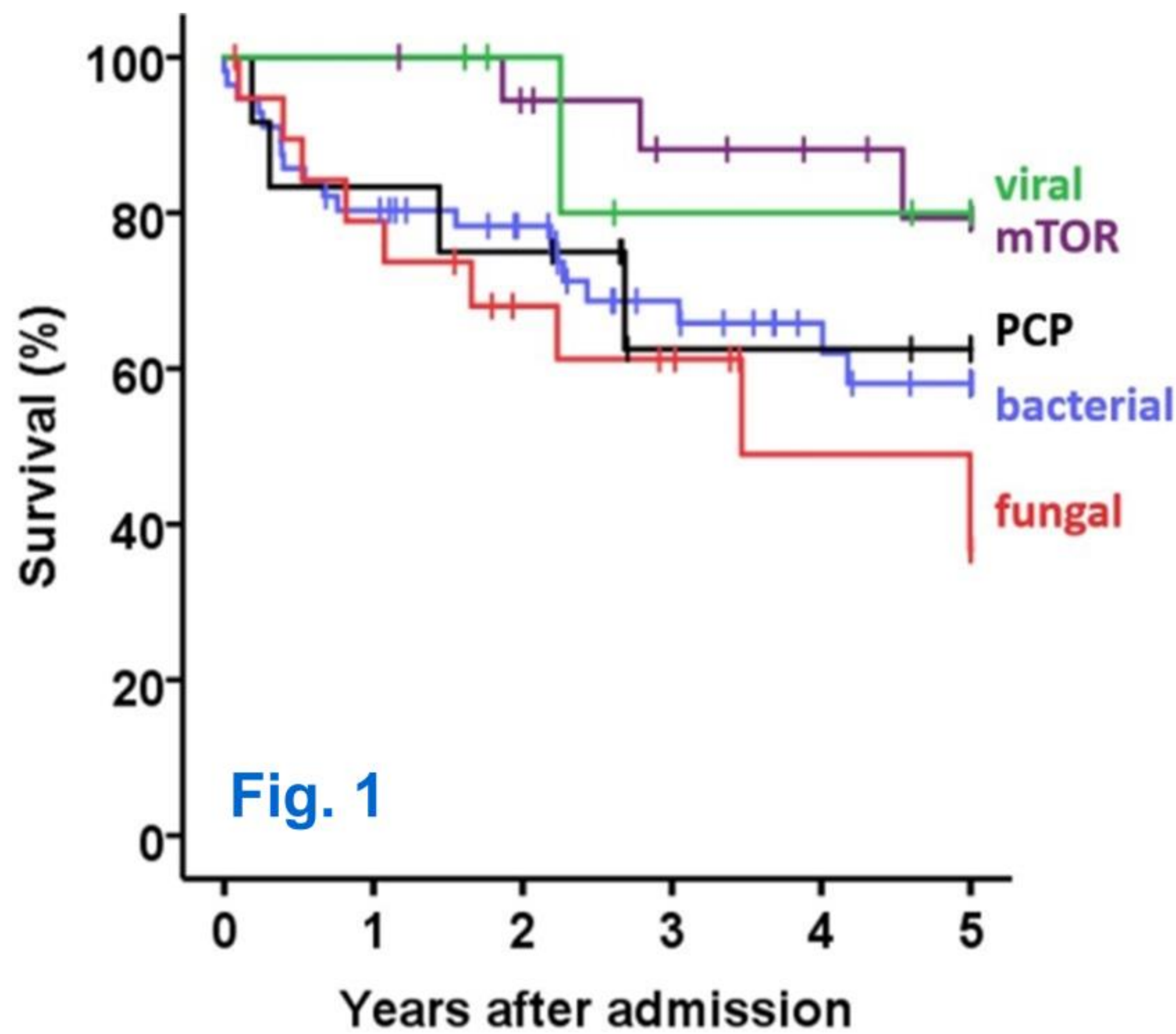
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Introduction: Few data evaluates the differential diagnostic value of bronchoalveolar lavages (FO-BAL) in kidney transplant recipients (KTR) with acute respiratory failure (ARF). We describe the results of FO-BAL and the respiratory consequences in KTR with ARF.

Methods: This retrospective single center study included all adult KTR with ARF and diagnostic FO-BAL 2004-2014. .

Results: Overall, 154 FO-BAL were performed in 129 KTR (mean age 53 years) with ARF. The causes of ARF were: infections (bacterial (45%), fungal (16%), viral (7%), pneumocystis pneumonia (8%)) and mTOR-associated pneumonitis (14%). In 10% of FO-BALs no certain cause of ARF could be identified. The results of laboratory parameters and differential cytologic analysis of BAL fluids are presented in **Table 1**.



	bakterial infection	mTOR-associated	PCP	fungal infection	viral infection	other
Blood tests (median)						
Leukocytes, /nL	7.3	5.8	6.8	9.1	4.5	7.6
CRP, mg/dL	53.7	33.9	68.8	73.6	42.1	23.6
PCT, µg/dL	0.53	0.13	0.31	0.33	0.2	0.12
LDH, U/L	281	331	428	311	292	244
BAL cytology (median)						
Macrophages, %	45	52	38	50	48	65
Lymphocytes, %	7	23	24	11	26	18
Neutrophils, %	29	9	27	18	9	3
CD4/CD8	2.1	2.2	1.2	2.5	1.1	1.6

In case of ARF due to pulmonary infection, FO-BAL contributed to identification of the pathogenic agent in 51.3% of cases while respiratory deterioration after FO-BAL with the need of ventilation support occurred in 19.5% of patients, including 12.3% of patients who required invasive ventilation. 5-year survival by pathogenic entity is presented in **Fig.1**.

Conclusions: In KTR patients with ARF, a diagnostic strategy that includes FO-BAL may be limited by atypical presentation of findings but frequently exposes the patients to additional risk of respiratory deterioration.