



A retrospective descriptive study of ABO-incompatible kidney transplantation in perspective of cost: HKL experience

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Introduction

In 2009, 92% of patients on Renal Replacement Therapy (RRT) in Malaysia were on dialysis, only 8% received a kidney transplant¹. ABO-incompatible (ABOi) kidney transplantation (KT) is one treatment option for patients with End-stage Kidney Disease (ESKD) in Malaysia, due to low deceased donor donation rate and we have not embarked on Paired Kidney Transplant Program². Advanced in desensitization techniques, such as plasmapheresis (PEX), Double Filtration Plasmapheresis (DFPP), immunoadsorption (IA), intravenous immunoglobulin (IVIg) and Rituximab (Ritux) have made ABOi KT promising. However, the cost and health outcomes have not been assessed.

Methodology

- Design: Retrospective descriptive study.

❖ All ABOi KT in the Nephrology department, from 1st July 2012 to 1st March 2022, in Hospital Kuala Lumpur (HKL) were collected.

- Variables collected include:

1. Date of transplantation
2. Relationship between the pair
3. Blood group of the donor and recipient
4. First anti-A or Anti-B titre and the titre prior to operation
5. Number of PEX or DPFF, Ritux and IA usage
6. Rejection episode and infection rate.

Results

- 38 pairs of Living ABOi KT were performed during the period of study.
- 18 pairs were living related while 20 pairs were living emotionally related.
- 27 recipients have undergone desensitization, while 10 recipients exempted from desensitization with first and pre-operation isoagglutinin titre \leq 1:16, one pair data unavailable.
- The total cost of desensitization was RM907,104.
- 2 cases of hyperacute rejection.
- 1 death due to intra-abdominal bleed post operation.

Number of recipients	Desensitization method	Total Cost in Ringgit Malaysia
19	IV Rituximab	RM 64,714
11	Plasma Exchange	RM 30,690
6	Immunoadsorption	RM 79,080
27	Double Filtration Plasmapheresis followed by IV Immunoglobulin	RM732,620
	Total	RM907,104

Conclusion

ABOi Kidney Transplant is cost-favourable in Malaysia, it results in better quality of life in ESKD patients compared to other modalities of renal replacement therapy.

References:

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