# The first case report of passenger lymphocyte syndrome following minor ABO-incompatible liver transplant in Hospital Selayang

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## ABSTRACT

**Introduction:** Passenger Lymphocytes Syndrome (PLS) is a form of graft-versus-host disease that can be seen in minor ABO-incompatible stem cell or solid organ transplantation. **Case Report:** A 39-year-old man with liver cirrhosis due to alcohol-related liver disease underwent a cadaveric liver transplant. The patient is blood group A positive, while the donor is O positive. Pre-transplantation, his haemoglobin was 11.7 g/dL. One-week post-transplant, his haemoglobin dropped from 8.7 g/dL (post-transplant) to 7.3 g/dL. Two weeks post-transplant, it dropped further to 4.2 g/dL, with a reticulocyte count of 6.6%. Total bilirubin increased from 100µmol/L (pre-transplant) to 608µmol/L (Indirect bilirubin 462µmol/L). A peripheral blood film showed acute hemolysis with spherocytes and polychromasia. A blood group test revealed unexpected Anti-A in the reverse grouping, which was negative during pre-transplant testing. The direct Coombs test was positive (IgG 2+), and the indirect Coombs test was negative. Anti-A was eluted with an Anti-A IgG titer of 1:32 and an IgM titer of 1:4. The crossmatch was incompatible with group A donors but compatible with group O donors. A diagnosis of PLS was made and the patient was managed conservatively. He was discharged after 22 days with a haemoglobin level of 7.3 g/dL. **Conclusion:** PLS occurs when the viable donor B-lymphocytes from the allograft produce antibodies against the recipient's red blood cells causing immune haemolysis. PLS is generally mild and self-limiting, but in rare cases, it can result in acute renal failure, disseminated intravascular coagulation, hypotension, and multiorgan failure. There is no specific treatment for PLS, but management generally involves transfusion of blood products and immunosuppressive therapy.