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P218 -Anaemia management in four renal transplant recipients secondary to Ribavirin therapy

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The incidence of Hepatitis E infection in renal transplant recipients is increasing. The mainstay of therapy is to reduce immunosuppression, but in addition many patients require treatment with Ribavirin. One of the main side effects and limitations in its use is haemolytic anaemia. Here we present four renal transplant recipients receiving Ribavirin (one for Hepatitis C) and its management with erythropoietin (ESA) therapy.
Patient A transplanted June 2011; known Hepatitis C pre transplant but failed eradication with interferon. Decision made to re treat with Ribavirin February 2018. Pre therapy eGFR 34mls/min, serum creatinine 146umol/L, Hb 117g/L (not on ESA). 13 days later Hb 96g/L, 20 days 67g/L, 21 days 57g/L with subsequent 2 unit blood transfusion. Haptoglobins normal on two occasions, reticulocytes $105x10^9$/L. Prescribed Eprex 10,000 units weekly and Aranesp 50micg every 3 weeks, later increased to weekly. Ribavirin dose temporarily stopped. Hb only above 100 10 weeks later and 7 weeks after stopping Ribavirin.
Patient B third transplant November 2010 and Hepatitis E diagnosed January 2016. Started Ribavirin February 2016 with eGFR 46mls/min, serum creatinine 112umol/L, Hb 133g/L (not on ESA). By day 7 Hb 93g/L, day 19 69g/L, reticulocytes $104x10^9$/L and haptoglobins <0.3g/L. Ribavirin stopped for a month then restarted at reduced dose once Hb 105g/L; Eprex 10,000units/week started and needed to maintain Hb >100g/L.
Patient C third transplant September 2005. Hepatitis E diagnosed June 2018, Ribavirin started July. Pre-treatment eGFR 46mls/min, serum creatinine 141umol/L, Hb 139g/L (not on ESA). Based on experience of patient A & B, weekly blood counts arranged and plan made to start ESA if Hb ≤ 12g/L. By day 17 Hb 101g/L so started Eprex 10,000units/week. Hb dropped to 79g/L by day 30 of Ribavirin requiring 2 unit blood transfusion. Required up to 30,000 units of Eprex/ week to maintain Hb with simultaneous reduction in Ribavirin dose.
Patient D transplanted November 1990. Hepatitis E diagnosed September 2018. Pre-treatment eGFR 46mls/min, serum creatinine 147umol/L, Hb 122g/L (not on ESA). Started Ribavirin November 2018 but on experience gained with cases above, Eprex 10,000units/week was started simultaneously. Hb 103g/L 10 days into treatment and 93g/L 19 days into treatment. Hb maintained ≥93g/L throughout treatment and no dose reductions in Ribavirin or blood transfusions required.
Even with good renal function, and reasonable or normal Hb levels at the time of initiation of Ribavirin, all of our patients became anaemic. The severity of the anaemia was such that the first three cases needed a dose reduction of Ribavirin, or complete cessation. In case B this led in part to incomplete treatment of Hepatitis E and its subsequent relapse.
As we gained experience dealing with Ribavirin induced haemolytic anaemia, we became more confident in prescribing pre-emptive high doses of ESA to our patients even in the face of a normal Hb. It is essential the hepatology team overseeing Hepatitis therapy inform the nephrologists of the Ribavirin start date so that pre-emptive ESA therapy can be initiated. Only with pre-emptive large dose Eprex were we able to avoid profound anaemia.