# PROFOUND HYPERTRIGLYCERIDAEMIA (51 MMOL/L) FOLLOWING CHEMOTHERAPY IN POST-TRANSPLANT LYMPHOPROLIFERATIVE DISEASE.

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## Background

- Kidney transplant recipients are at increased risk of malignancy, hypercholesterolaemia, cardiovascular disease. Important to monitor and control cholesterol to avoid increased CV risk.
- Predisposing factors to high cholesterol:
  - diabetes
  - weight gain / obesity
  - steroids
  - mTOR inhibitors, calcineurin inhibitors
  - platinum chemotherapy (1)
  - Lymphoma lipid mechanic alterations
- Post transplant lymphoproliferative disease (PTLD) is a life-threatening complication with an incidence of 2-20%.
- Hypertriglyceridemia is increasingly recognised as a hallmark of lymphoma yet the mechanism is not well understood.

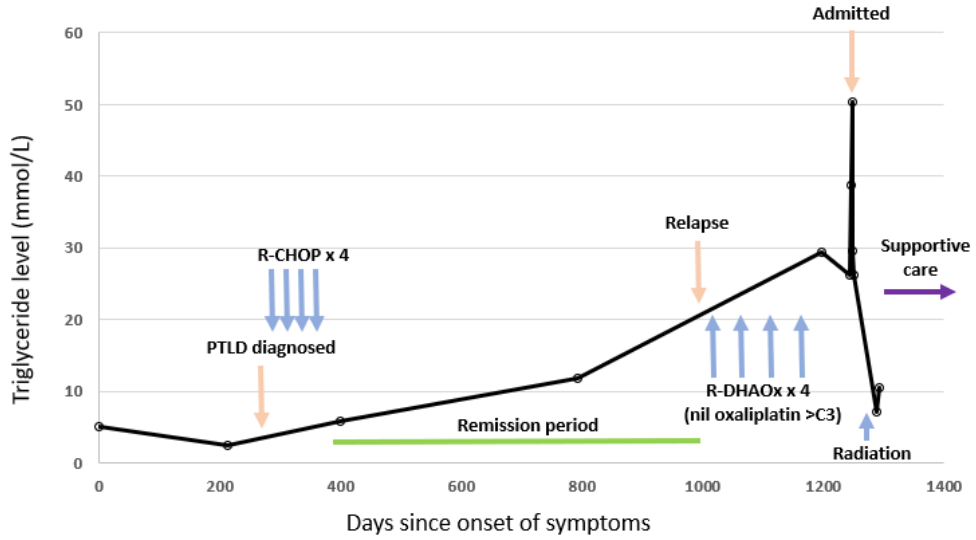
## Case Report

**41-year-old teacher, 13 years post kidney transplant**

- Kidney Transplant: 27/9/11, 5MM, cPRA null, EBV +/+, no rejection.
- Complications: New onset diabetes, AZA conversion due to low WCC.
- Underlying kidney disease: MPGN.
- PMHx: NAFLD, depression, OSA, distant ex-smoker. ECOG1.
- Meds: CyA 25mgBD, Pred 5mg, metformin, insulin, bactrim, apixaban

<u>PTLD: Monomorphic PTLD (Diffuse large B cell variant, EBV negative)</u>

- *Initial disease (abdomen, 29/4/21)*: Rituximab, cyclophosphamide, doxorubicin, vincristine and prednisolone.
  - No substantial change in cholesterol. Remission.
- *Relapse disease:* Rituximab, dexamethasone, **oxaliplatin**, cytarabine.
  - Deterioration of lipid levels without evidence of pancreatitis.
  - Partial response, complicated by hearing loss / VTE.
- *Outcome:* Due to intolerable side effects and pt wishes – declined further salvage chemotherapy or CAR-T / experimental therapy. Local abdominal radiation (15#) given in Dec 2023.

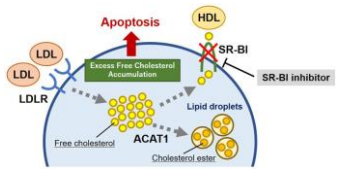



## Cholesterol Management

- Baseline triglycerides = 4-6 mmol/L (<2.1) Profound hypercholesterolaemia (51 mmol/L) after platinum-based chemotherapy with dexamethasone.
- No pancreatitis symptoms or eruptive xanthomas or xanthelasma.
- Hba1c = 6.2%. TFT=N. Lipase=N. **ApoB=1.51H** (<1.2), apoA1=0.97L, Lipid EPP = **Type V hyperlipoproteinaemia**.
- Treated with insulin infusion, initiation of fenofibrate 145mg once daily, fish oil 2g daily, rosuvastatin 40mg Partial recovery to 10 mmol/L after cessation of Tx.

## Possible mechanisms of hypertriglyceridemia

- Type V hyperlipoproteinemia: Resistance to treatment, predisposition to high levels
- Platinum chemo and dexamethasone are associated apolipoprotein dysfunction (1, 2).
- Cholesterol regulation is altered in lymphomas, triglycerides can rise with tumour lysis, and burden / relapse (4).




## Take home messages

- Mechanism and treatment of hypercholesterolaemia in this population is not well understood, persisting hypercholesterolaemia should prompt lipid electrophoresis.
- In this case, multiple factors contributed to severity of triglycerides: type V dyslipidaemia, calcineurin inhibition, steroids, platinum chemotherapy and lymphoma
- Regular lipid testing is important during treatment of PTLD and may be of use in the monitoring of patients during cancer survivorship.

## References

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