INTRODUCTION

- Cobalamin C (cblC) defect is an autosomal recessive disorder of cobalamin metabolism due to pathogenic variants in MMACHC gene.
- This results in reduced methylmalonyl-CoA mutase and methionine synthase enzyme activities.
- Biochemical findings in plasma include elevated propionylcarnitine (C3), methylmalonic acid (MMA), free homocystine (fHCY), total homocysteine (tHCY) and low methionine (Met) accompanied by increased methylmalonic acid in urine.
- It mostly presents during infancy and early childhood with haematological and neurological manifestations, with a number of late-onset/adulthood cases have been reported.
- cblC defect is a rare cause of atypical haemolytic uremic syndrome (aHUS) which is a thrombotic microangiopathy (TMA), defined by the presence of thrombocytopenia and acute renal failure.

CASE REPORT

A 22 year old female presented with:
- Ongoing history of non-specific abdominal pain, associated with intermittent nausea and vomiting, cannabis-related hyperemesis and weight loss.
- At presentation, she was hypertensive, with a mild renal impairment, proteinuria, haematuria and significant microcytic anaemia with a mild thrombocytopaenia. Her newborn screening result at birth was normal.
- Suggestive of microangiopathic haemolytic anaemia (MAHA) or aHUS.

RESULTS

Molecular Analysis

- Molecular analysis for aHUS and MMA panels showed compound heterozygous for MMACHC gene
  - c.271dup and
  - c.389A>G.
- Both are known to be pathogenic variants with renal involvement.

Renal biopsy

- Changes related to MAHA with well-preserved tubulointerstitial oedema.

CONCLUSION

This report highlights that cblC defect could present in adulthood with significant renal impairment related to MAHA, and should be considered as a differential diagnosis.

DISCUSSION

- The patient responded to high dose intramuscular hydroxocobalamin and oral folic acid supplementations.
- Despite that her renal function deteriorated further needing peritoneal dialysis.
- The triggering factors for her MAHA are still unclear.