

Introduction

Anaemia in pregnancy is a common occurrence, affecting over 20% of pregnant women in Europe. Currently, women with a singleton pregnancy are tested for anaemia at booking and 28 weeks of pregnancy, with anaemia being defined as <105g/L from the second trimester. A platelet count below 100 x 10⁹/L in pregnancy , affects less than 1% of women. [1][2]

Case report

A 31 year old female (gravida 6 parity 4+1) presented to the labour ward with abnormal results from haematological investigations taken by the community midwife. The patient presented at 28/40 with a past medical history of epilepsy and a previous deep vein thrombosis. The patient was a current smoker. Medication consisted of leveitracetam.

The patient was asymptomatic and observations were within normal parameters. Haematological investigations were repeated on arrival in triage.

Haematological results confirmed anaemia and thrombocytopenia . Creatinine, urea and ferritin levels were within normal parameters. Lactate dehydrogenase levels were elevated at 944U/L.

The case was discussed with a Haematology Consultant and an initial plan was carried out for a transfusion of two units of packed red cells and a dose of platelets. This was administered and the patient was admitted pending further investigation.

After further discussion and review of results from the investigations, a diagnosis of severe folate deficiency was made. The patient was prescribed folic acid, vitamin B12 and vitamin C. Dietary advice was given with the likely cause was poor dietary intake, exacerbated by the pregnancy.

The haemoglobin and platelet count increased and were at acceptable levels fourteen days after treatment started. The patient was discharged on day seven and outpatient follow up was arranged. The patient had a vaginal delivery at term.

Haematological investigations

	At presentation	Five days after presentation	Seven days after presentation	Fourteen days after presentation
Haemoglobin (g/L)	62	87	90	103
Platelets (10 ⁹ /L)	9	35	116	267
Red blood cells (10 ¹² /L)	3.07	2.61	2.51	2.75
White blood cells (10 ⁹ /L)	10.45	31.07	30.03	18.23
Haematocrit (L/L)	0.177	0.272	0.280	0.330
Mean Corpuscular Haemoglobin Concentration (g/dL)	350	320	323	312
Folate (µg/L)	<1	–	4.3	>24
Vitamin B12 (ng/L)	150	–	1159	645

Discussion

Although anaemia and thrombocytopenia is common in pregnancy, it is uncommon to have levels as low as in this case, through poor dietary intake.

If the patient had required delivery of her baby , a multi-disciplinary approach including obstetricians, haematologists and anaesthetists would have been needed to facilitate the safest delivery plan for both mother and baby.

For treatment, Vitamin B12 levels were at the lower end of the normal range, so B12 replacement was also given. Folic acid was replaced along with supplementary Vitamin C as it increases the bioavailability of folate by protecting the methyltetrahydrofolic acid from oxidation. As folate is water soluble, a dietary supply is needed to maintain levels. [3]

Medical complications of low folate and vitamin 12 include the risk of cardiac failure, neurological dysfunction, psychosis, and neural tube defects for the foetus. [4]

References

[1]

Costello Medical
Screening for Iron Deficiency Anaemia in Pregnancy
UK National Screening Committee
July 2021

[2]

Mangla A, Hamad H
Thrombocytopenia in Pregnancy.
Updated 2022 Nov 30. StatPearls Publishing; 2024

[3]

Golding, P.H.
Experimental folate deficiency in human subjects: what is the influence of vitamin C status on time taken to develop megaloblastic anaemia?
BMC Hematol 18, 13 (2018)

[4]

Clinical Knowledge Summaries
Anaemia - B12 and Folate Deficiency
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