Ferritin as a screening tool for iron deficiency in pregnancy - The tip of the iceberg.

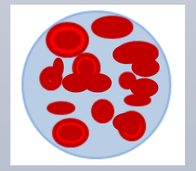
M McGarraghy, K Litchfield
Princess Royal Maternity, Glasgow, UK

Introduction:

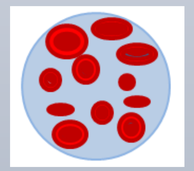
Iron deficiency with or without anaemia, is associated with maternal fatigue and increased risk of postpartum depression [1]. In the UK, the prevalence of anaemia was found to be 24% [2]. A serum ferritin level of <30 µg/l in pregnancy is indicative of iron deficiency. Iron deficiency is a progressive process, iron stores fall from being replete to deplete and finally absent, resulting in iron deficiency anaemia. Pregnancy Anaemia Management Scotland (PRaMS), a Scottish Government supported national project to reduce antenatal anaemia by treating iron deficiency is being implemented. This involves screening for low iron states with serum ferritin and instituting treatment with oral iron. A pilot for this project commenced in our institution in March 2020-21 which included screening ferritin levels at booking and 28 weeks. We sought to identify the prevalence of low iron states by measuring serum ferritin in our cohort.

Methods:

Ethical approval was obtained. Serum ferritin levels taken in an outpatient setting at our institution from March 2020-21 were accessed via the hospital laboratories. For those parturients who had more than one ferritin result the first and last ferritin checked were included. Data were analysed with Excel. Electronic patient records were used to identify the cause of a high ferritin result (>270 µg/l) where possible.







Results:

2440 ferritin results were captured. 1787 (73%) were < 30 µg/l and would have triggered iron replacement. 1602 parturients had one ferritin result captured, while 379 had ≥ 2 ferritin results captured during pregnancy. 1469 (74%) of parturients had a ferritin result < 30 µg/l at some point during their pregnancy. 22 parturients (1.1%) had a ferritin >270 µg/l and this should have triggered medical referral and further investigation.

Chart 1. Percentage of parturients with a ferritin results a) <30 µg/l, b) 30-270 µg/l, c) >270 µg/l

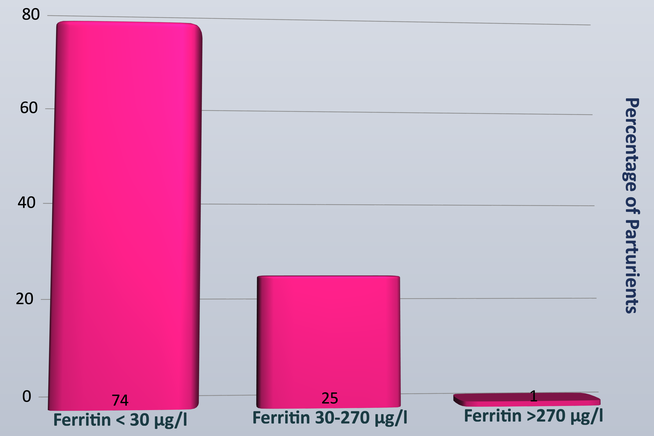


Table 1. Ferritin result > 270 µg/l

	No. of parturients
Ferritin result > 270 µg/l	22
- Post IV Iron	15
- Beta thalassaemia carrier	1
- Unclear reason/not repeated	4
- Normal result when repeated	2

Discussion:

The prevalence of iron deficiency is extremely high in our cohort of parturients. The majority of parturients would have triggered treatment with oral iron replacement. After excluding parturients with a high ferritin >270 µg/l, post IV iron treatment, only a small proportion of patients will require investigation for elevated ferritin levels. This data is being used to guide development of treatment pathways for PRaMS. The pathways will aim to reduce antenatal anaemia by screening for low iron stores, identifying patients before they become anaemic and proactive early intervention to replenish iron stores. We aim to improve patient compliance and increase education and information for women.

References:

1. Pavord S, Daru J, Prasannan N et al. UK guidelines on the management of iron deficiency in pregnancy. *Br J Haematol.* 2020;188:819-830. **hps://doi.org/10.1111/bjh.16221**

2. Barroso F, Allard S, Kahan BC et al. Prevalence of maternal anaemia and its predictors: a mul-centre study. *Eur J Obstet Gynecol Reprod Biol*. 2011;159(1):99-105.

www.PosterPresentations.com