

## Iron Deficiency and Iron Deficiency Anaemia/Anaemia as a Diagnostic Indicator for Coeliac Disease: A Systematic Review With Meta-Analysis

**Authors :** Sahar Shams

**Abstract :** Coeliac disease (CD) is a widely reported disease particularly in countries with predominant Caucasian populations. It presents with many signs and symptoms including iron deficiency (ID) and iron deficiency anaemia/anaemia (IDA/A). The exact association between ID, IDA/A and CD and how accurate these signs are in diagnosing CD is not fully known. This systematic review was conducted to investigate the accuracy of both ID & IDA/A as a diagnostic indicator for CD and whether it warrants point of care testing. A systematic review was performed looking at studies published in MEDLINE, Embase, Cochrane Library, and Web of Science. QUADAS-2 tool was used to assess risk of bias in each study. ROC curve and forest plots were generated as part of the meta-analysis after data extraction. 16 studies were identified in total, 13 of which were IDA/A studies and 3 ID studies. The prevalence of CD regardless of diagnostic indicator was assumed as 1%. The QUADAS-2 tool indicated most of studies as having high risk of bias. The PPV for CD was higher in those with ID than for those with IDA/A. Meta-analysis showed the overall odds of having CD is 5 times higher in individuals with ID & IDA/A. The ROC curve showed that there is definitely an association between both diagnostic indicators and CD, the association is not a particularly strong one due to great heterogeneity between studies. Whilst an association between IDA/A & ID and coeliac disease was evident, the results were not deemed significant enough to prompt coeliac disease testing in those with IDA/A & ID.

**Keywords :** anemia, iron deficiency anemia, coeliac disease, point of care testing

**Conference Title :** ICH 2023 : International Conference on Hematology

**Conference Location :** London, United Kingdom

**Conference Dates :** February 16-17, 2023