Diabetes Metab Syndr

. 2020 Nov-Dec;14(6):1837-1840.

 doi: 10.1016/j.dsx.2020.09.020. Epub 2020 Sep 14.

# Anaemia in patients with type 2 diabetes mellitus without nephropathy is related to iron deficiency

[M Praveen](https://pubmed.ncbi.nlm.nih.gov/?term=Praveen+M&cauthor_id=32961516)[1](https://pubmed.ncbi.nlm.nih.gov/32961516/#full-view-affiliation-1), [N Jain](https://pubmed.ncbi.nlm.nih.gov/?term=Jain+N&cauthor_id=32961516)[2](https://pubmed.ncbi.nlm.nih.gov/32961516/#full-view-affiliation-2), [N Raizada](https://pubmed.ncbi.nlm.nih.gov/?term=Raizada+N&cauthor_id=32961516)[2](https://pubmed.ncbi.nlm.nih.gov/32961516/#full-view-affiliation-2), [S Sharma](https://pubmed.ncbi.nlm.nih.gov/?term=Sharma+S&cauthor_id=32961516)[3](https://pubmed.ncbi.nlm.nih.gov/32961516/#full-view-affiliation-3), [S Narang](https://pubmed.ncbi.nlm.nih.gov/?term=Narang+S&cauthor_id=32961516)[1](https://pubmed.ncbi.nlm.nih.gov/32961516/#full-view-affiliation-1), [S V Madhu](https://pubmed.ncbi.nlm.nih.gov/?term=Madhu+SV&cauthor_id=32961516)[4](https://pubmed.ncbi.nlm.nih.gov/32961516/#full-view-affiliation-4)

Affiliations expand

* PMID: **32961516**

* DOI: [10.1016/j.dsx.2020.09.020](https://doi.org/10.1016/j.dsx.2020.09.020)

## Abstract

**Background and aims:**Iron deficiency anaemia, although well reported in diabetic nephropathy, has not been well studied in type 2 diabetes patients in the absence of nephropathy. We studied the prevalence of anaemia and iron deficiency in type 2 diabetes patients without nephropathy.

**Material and methods:**A total of 89 patients were selected for this study. 24 h urine protein less than 500 mg was used as the criteria to rule out diabetic nephropathy. Complete hemogram, iron profile and high sensitivity C reactive protein (hs CRP) levels were performed in each patient.Functional iron deficiency (FID) was defined as serum ferritin more than 100 μg/l with serum transferrin less than 20% and total iron deficiency state was defined as serum ferritin less than 100 μg/l.

**Results:**Fifteen patients (16.8%)had anaemia out of which 13 had total iron deficiency and one each had functional iron deficiency and normal iron status respectively. Assessment of the iron status overall showed that 49 patients had TID (55.05%), 16 had FID (17.9%)and 24 (27.05%) had normal iron status. The hs-CRP was significantly higher in those with iron deficiency.

**Conclusions:**The present study found a high prevalence of iron deficiency anaemia in type 2 diabetic patients even in the absence of nephropathy. Most of the diabetic subjects also displayed an iron deficiency state the cause of which needs further investigation.

**Keywords:**Anaemia; Iron deficiency; Nephropathy; Type 2 diabetes mellitus.

Copyright © 2020. Published by Elsevier Ltd.

[PubMed Disclaimer](https://pubmed.ncbi.nlm.nih.gov/disclaimer/)

## Conflict of interest statement

Declaration of competing interest None.