



Combined Iron Deficiency Anemia and Occult Seronegative Gluten Intolerance

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Case Report

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Abstract

A 66-year old man with new symptomatic iron deficiency anemia was investigated with gastroscopy, which revealed adenomatous large inflammatory erosive polyp, which was removed. Iron rich diet and iron replacement therapy was only partially helpful but serum iron indicators were still reduced. Abnormal iron absorption was proposed. Celiac transaminase tTG- IGA and anti-gliadin and anti-endomysial antibodies were negative. Due to suspicion of seronegative gluten intolerance gluten free diet was initiated. Hemoglobin and serum iron characteristics became normal two months later. We conclude: occult iron deficiency reasons should not be missed including seronegative gluten intolerance.

Keywords: Combined Iron Deficiency Anemia; Gastric Erosive Adenomatous Polyp; Occult Gluten Intolerance; Iron Therapy Resistance; Gluten Free Diet

Mixed diseases present serious challenges for modern medicine. One disease superimposed on other one might have similar manifestations, but request different therapy [1]. Appropriate timely assessment and vigilance are needed in order to prevent missed diagnosis and further complications.

A case as follows demonstrates such problems. A 66-year old man felt shortness of breath on effort on august 2022. Prior blood hemoglobin (Hb) concentration was always higher 15g/L. New CBC analysis disclosed microcytic severe iron deficiency anemia Hb 8.1g/L (Table 1).

Date/variable	8.08.21	29.09.22	11.10.22	21.11.22	20.4.23	3.08.23	30.10.23	27.11.23	Normal range
Hb (g/dl)	15	8.1	10	11	12	12	14.8	14.8	13.5-18
RBC /mcl X106	5.61	4.71	5.18	5.75	6.05	5.58	6.06	5.92	
MCV (fl)	88	72	74	73	72	80	79	82	79-97
MHC (pg/cell)	27.5	18.3	19.3	19.1	19.8	22.9	24.4	25	27-34
RDW %	14.4	21.2	25.6	20.4	20.7	23.9	18.6	17	11.6-15.0
PLT (mcl) X103	269	342	321	319	395	269	282	284	150-450
Iron mcg/dl (serum)			73			23	38	46	65-175

Ferritin ng/ml			42			6.6	10.3	16.1	10.5-307.3
Transferrin saturation (%)			23			5	10	12	10-30
Iron supplement	No	Yes	Yes	No	No	No	No	No	
Iron reach diet	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
Gluten free diet	No	No	No	No	No	Yes	Yes	Yes	

Table 1: Blood parameters' dynamic during follow up and therapy for iron deficiency anemia.

Arterial hypertension was well controlled by bisoprolol and candesartan. Recent cardio-pulmonary assessment was unremarkable. Aspirin 100mg/day was long term helpful therapy for dizziness. There were no complains of chest or abdominal pain or gastro-intestinal discomfort. No melena, bloody discharge or "coffee ground" were observed. Acute phase inflammatory indicators and biochemistry were unremarkable. None erythrocytes were found in urine analysis. Physical examination revealed morbid obesity and pale skin. Chest X-ray was normal. Gastroscopy and histology indicated large (3cm) gastric adenomatous inflammatory erosive polyp with short stalk without signs of hemorrhage or ulceration of gastric mucous. Duodenal and intestinal investigation did not revealed inflammation, ulceration or mucosal atrophy. Gastric polyp was removed with clips' application dissolved in time.

Colonoscopy was unremarkable. Intravenous iron supplement was initiated with two courses of 5 infusions. Aspirin therapy was stopped. No blood transfusion was performed. Within two months Hb gradually increased till 10g/L. Further two months follow up showed elevation of Hb to 12g/L. Serum iron, ferritin; transferrin saturation had yet reduced values. The patient followed iron reach diet. Nevertheless, severe iron deficit continued further 8 months (Table 1) without any changes of blood Hb concentration 12.1-12.1 g/L. Oral iron supplement failed and further discontinued due to intolerance. The question was raised about abnormal intestinal iron absorption. Serology for celiac disease including tissue transglutaminase IgA, anti-gliadin and anti-endomysial antibodies were negative. Intestinal atrophy was not found by endoscopy. Further thought was about possible gluten seronegative enteropathy [2]. Only single confirmation for this problem is response to gluten free diet [3]. The last was initiated and two months

later Hb returned to normal range 14.6-14.8g/L Iron, ferritin, transferrin saturation increased gradually (Table 1).

We propose two reasons for above-mentioned severe iron deficiency:

- Subclinical recurrent long term blood loss due to erosive gastric polyp aggravated by aspirin therapy.
- New occult seronegative gluten intolerance.

Removing the first origin was not sufficient for restoring of blood hemoglobin and overcoming iron deficiency. The option of gluten enteropathy was considered and anemia therapy was complimented with gluten free diet. Dyspnea on effort eliminated. We underline that gluten enteropathy as a single origin of iron deficiency anemia in our case was unlikely. It is difficult to explain sustained Hb elevation after removing polyp and discontinuation of aspirin therapy.

Conclusion

Occult iron deficiency etiology should not be missed including seronegative gluten intolerance.

References

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