International Journal of Research in Medical Sciences
Makadia R. Int J Res Med Sci. 2025 Jan;13(1):399-400
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20243790

Case Report

A case of dysphagia and microcytic anemia successfully treated with heme iron polypeptide

Rajesh Makadia*

Department of Onco-Surgery, Mangalam Hospital, Rajkot, Gujarat, India

Received: 25 November 2024
Accepted: 10 December 2024

***Correspondence:**
Dr. Rajesh Makadia,
E-mail: drrajeshmakadia@gmail.com

ABSTRACT

A 40-year-old female presented to the oncologist with complaints of dysphagia (pain while swallowing) for the past month. Apart from this symptom, she had no other significant clinical complaints. Physical examination and imaging did not reveal any obvious findings, except for a few non-specific left supraclavicular lymph nodes. Blood tests revealed anemia, for which she was prescribed heme iron polypeptide (HIP). Follow-up over six months showed significant improvement in her hemoglobin levels and resolution of symptoms. This case highlights the efficacy and gastrointestinal tolerability of HIP in managing anemia.

Keywords: Fe daily, Dysphagia, Iron deficiency anemia, Heme iron polypeptide

INTRODUCTION

Anemia is a common clinical condition that may present with nonspecific symptoms such as fatigue, weakness, or dysphagia.[1] HIP is a relatively newer form of iron supplementation known for its superior bioavailability and minimal gastrointestinal side effects.[2] This case report discusses the clinical presentation, evaluation, and management of a patient with dysphagia and anemia treated successfully with HIP.

CASE REPORT

A 40-year-old female, gravida 4, para 4, with no known medical history, presented with a one-month history of pain while swallowing (dysphagia). She denied any other complaints such as weight loss, fatigue, or change in appetite. There was no prior history of gastrointestinal disorders, thyroid disease, or chronic illnesses. The physical examination was unremarkable. There were no signs of oropharyngeal abnormalities, palpable masses, or lymphadenopathy. She was hemodynamically stable, with no fever, and exhibited normal cardiopulmonary and abdominal findings. To investigate the cause of her dysphagia, a CT scan of the paranasal sinuses was ordered, which revealed no abnormal mass or lesions in the neck or oral cavity. A few non-specific flat left supraclavicular lymph nodes were noted, though they were not deemed clinically significant. Further evaluation through routine blood investigations revealed anemia, with the notable findings in Table 1, patient's remaining blood indices were within normal ranges.

Table 1: Interpretations of blood indices.

Investigations	Interpretation
Hemoglobin (Hb)	9.3 g/dl (normal range: 12-16 g/dl)
Mean corpuscular volume (MCV)	indicative of microcytic anemia
Red blood cell morphology	microcytic, normochromic

The patient was reassured that there were no signs of a serious underlying condition based on the imaging and blood test results. She was diagnosed with microcytic normochromic anemia and was prescribed: Tablet Fe Daily (HIP) 1 tablet daily for 3 months, tablet

Levosulpiride 75 mg once daily for GERD and vitamin D supplementation. The patient was followed up at three-month and six-month intervals. At her three-month follow-up, she reported improvement in her dysphagia, and repeat blood tests showed a rise in hemoglobin levels. By six months, her hemoglobin had increased to 12.7 g/dl, and other hematologic indices were within normal ranges, suggesting the resolution of anemia.

DISCUSSION

Clinical presentation of iron deficiency can be very heterogeneous, including various oral and other mucosal problems.[3] Here, in this case report we discuss the patient with only symptoms of dysphagia with iron deficiency anemia, which was found during investigations, patients was ruled out for other possible differential diagnosis for dysphagia. Stefano et al also discuss the resolution of dysphagia upon correction of the iron deficiency anemia.[4]

This case illustrates the efficacy of heme iron polypeptide in treating iron deficiency anemia. HIP is produced by the hydrolysis of hemoglobin from animal sources, where peptides from the hemoglobin subunits remain covalently bound to the heme ring. This unique formulation allows HIP to have higher bioavailability and better gastrointestinal tolerability compared to non-heme iron supplements.[5] The patient's anemia, which may have contributed to her dysphagia, was effectively corrected with HIP, leading to symptomatic relief. Heme iron is taken up by heme transporter protein coupled folate transfer/heme carrier protein 1 (PCFT/HCP1) directly into the cytoplasm of enterocyte. The intact heme is then transported across basolateral membrane by the feline leukemia virus subgroup C receptor (FLVCR) protein and then binds to hemopexin in the circulation.[6]

Heme iron absorption is regulated by heme receptor and body iron levels, unlike non-heme iron salts. A study on HIP supplementation observed significant increase in serum iron levels in subjects with low initial serum iron levels.[7] Substances in food like tannins and phytates (present commonly in Indian diets) and chelators like desferrioxamine can reduce the availability of non-heme iron but do not reduce heme iron bioavailability.[8]

This case demonstrates the importance of a thorough evaluation for non-specific symptoms like dysphagia also early diagnosis and treatment with appropriate iron supplementation led to a favourable outcome in this patient.

CONCLUSION

Heme iron polypeptide represents a safe and effective treatment option for patients with iron deficiency anemia, especially those who experience gastrointestinal side effects from traditional iron salts. In this case, the patient's anemia was successfully managed with HIP, highlighting its utility in clinical practice.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Makadia R. A case of dysphagia and microcytic anemia successfully treated with heme iron polypeptide. Int J Res Med Sci 2025;13:399-400.