

PRESS RELEASE

DATE: 18 July 2017
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NEW EXPERT REVIEW IN THE AMERICAN JOURNAL OF HEMATOLOGY SEEKS TO CHANGE THE WAY WE TEST, TREAT AND TALK ABOUT IRON DEFICIENCY IN CHRONIC INFLAMMATORY CONDITIONS

- Iron deficiency affects up to 61% of patients with chronic heart failure, 85% of patients with chronic kidney disease, and 90% of patients with inflammatory bowel disease.¹
- Expert review provides healthcare professionals with a definition for iron deficiency separate to anemia.
- Specific diagnostic thresholds which test for iron deficiency in chronic inflammatory conditions have been established for the first time.

THE AMERICAN JOURNAL OF HEMATOLOGY HAS TODAY PUBLISHED AN EXPERT REVIEW WHICH PROVIDES A DEFINITION FOR IRON DEFICIENCY AND ENCOURAGES A NEW APPROACH TO DIAGNOSING IRON DEFICIENCY IN CHRONIC INFLAMMATORY CONDITIONS, IN AN EFFORT TO IMPROVE PATIENT HEALTH OUTCOMES.

Professor Maria Domenica Cappellini, Scientist and Clinician at the Fondazione Ca' Granda Policlinico, Italy, lead author of the review and co-chair of the newly formed Iron Core Group comprising of international experts said: "Iron deficiency is not fully recognised as a condition distinct from iron deficiency anemia: the terms 'iron deficiency' and 'iron deficiency anemia' are often used interchangeably."

"As experts in our fields, we agreed it was time to address the clear need for a set definition of iron deficiency applicable across chronic inflammatory conditions, which we now propose to be: "Iron deficiency is a health-related condition in which iron availability is insufficient to meet the body's needs and which can be present with or without anemia."

The expert review focuses on diagnosis of iron deficiency in three chronic inflammatory conditions; chronic heart failure (CHF), chronic kidney disease (CKD) and inflammatory bowel disease (IBD). Iron deficiency affects up to 61% of patients with CHF, 85% of patients with CKD, and 90% of patients with IBD; and has been linked to a possible increase in morbidity and mortality, and a potentially accelerated clinical deterioration in these conditions.¹

Common symptoms of iron deficiency include fatigue, exhaustion and poor work performance. There is also a strong relationship between iron status and cognitive function, depression and sexual function. These symptoms appear gradually and therefore may go unnoticed. They can also be attributed to the underlying chronic inflammatory condition, which makes diagnosis difficult.^{2,3,4,5,6}

Professor Cappellini continued: "Until now, the lack of a clear definition and diagnostic threshold for iron deficiency puts patients with chronic inflammatory conditions at risk of further health deterioration."

In the case of chronic inflammatory conditions, the authors recommend the following diagnostic thresholds:

- Ferritin <100µg/L OR low transferrin saturation (TSAT <20%).
- Ferritin between 100-300µg/L AND low transferrin saturation (TSAT <20%).

Dr. Khaled Musallam, President of the International Network of Haematology and co-chair of the Iron Core Group, said, “Historically, there has been little focus on how and when patients with iron deficiency in the absence of anemia should be diagnosed in relation to the underlying chronic inflammatory condition. This expert review now gives physicians clear expert guidance on diagnosing and treating iron deficiency in the context of these chronic disorders.”

The publication lists women, the elderly and those undergoing surgery as special populations at risk of iron deficiency and its adverse outcomes; finally, the review concludes by reviewing the available treatments, comparing the advantages and limitations of oral and IV iron. The best practice policy for treating iron deficiency is a case-by-case approach, depending on the inflammatory condition of the patient, their degree of iron deficit and the time available to replenish iron stores.

The Iron Core Group will continue to raise awareness of the new iron deficiency definition with the hope of creating a consistent approach to diagnosis and management of iron deficiency globally. In addition to this expert review paper, the Iron Core Group expects to publish further papers which will focus on the management of iron deficiency in other higher risk groups.

FURTHER INFORMATION

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The Iron Core Group is an entity gathering experts from around the world, and from a range of clinical specialities to focus on iron deficiency in chronic inflammatory conditions. The group is supported with an educational grant from Vifor Pharma.

The Iron Core Group members:

1. Prof. Angel Luis Martin de Francisco, Nephrologist at Valdecilla Universitario Hospital, Spain
2. Prof. Ali Taher, Hematologist at the American University of Beirut, Lebanon
3. Prof. Donat Spahn, Anesthesiologist at the University Hospital Zurich, Switzerland
4. Prof. Iain Macdougall, Nephrologist at King's College Hospital, UK
5. Prof. Rezan Abdul-Kadir, Obstetrician and Gynecologist at Royal Free London NHS Foundation, UK
6. Dr. Khaled Musallam, Clinician Scientist, at the International Network of Hematology, UK
7. Prof. Clara Camaschella, Clinician Scientist at the San Raffaele Scientific Institute, Italy
8. Dr. Carolyn Lam, Cardiologist and the National Heart Centre, Singapore
9. Dr. Josep Comin-Colet, Cardiologist at the Bellvitge University Hospital, Spain
10. Prof. Maria Cappellini, Clinician Scientist, at the Fondazione Ca' Granda Policlinico, Italy
11. Prof. Axel Dignass, Gastroenterologist at the Agaplesion Markus Hospital, Germany
12. Prof. Wolfram Döhner, Cardiologist at the Universitätsmedizin, Germany
13. Prof. Gerhard Rogler, Gastroenterologist at the University of Zurich, Switzerland
14. Dr. Nick Kassebaum, Epidemiologist at Seattle's Children's Hospital, USA

Iron deficiency in chronic heart failure

The cause of iron deficiency in chronic heart failure (CHF) is not fully understood, but it is thought to be multifactorial and arising from: a general loss of appetite and poor nutrition; decreased gastro-intestinal (GI) iron absorption due to oedema; increased GI blood loss that may occur partially as a result of antiplatelet and anticoagulant drugs; and, importantly, as a consequence of the chronic inflammatory state of these patients.¹

Iron deficiency in chronic kidney disease

Iron deficiency in CKD can arise from decreased GI iron absorption, malnutrition and blood loss, which is worsened by chronic inflammation.¹ Blood loss in CKD patients can originate from ongoing assessment tests and treatments such as dialysis.¹ Additionally, iron utilization is promoted during the use of erythropoiesis-stimulating agents (ESAs).¹ ESA therapy, while effective in correcting anaemia, can further exacerbate iron deficiency, which in turn may result in poor response to ESAs.¹

Iron deficiency in inflammatory bowel disease

The main causes of iron deficiency in inflammatory bowel disease (IBD) arise from impaired GI iron absorption due to chronic inflammation, bowel resection (especially in Crohn's disease), disease triggered malnutrition and (mainly chronic) blood loss.¹

Vifor Pharma Group, formerly Galenica Group, is a global specialty pharmaceuticals company. It aims to become the global leader in iron deficiency, nephrology and cardio-renal therapies. The company is the partner of choice for specialty pharmaceuticals and innovative patient-focused solutions. Vifor Pharma Group strives to help patients around the world with severe and chronic diseases lead better, healthier lives. The company develops, manufactures and markets pharmaceutical products for precision patient care. Vifor Pharma Group holds a leading position in all its core business activities and consists of the following companies: Vifor Pharma; Vifor Fresenius Medical Care Renal Pharma, a joint company with Fresenius Medical Care; Relypsa; and OM Pharma. Vifor Pharma Group is headquartered in Switzerland, and listed on the Swiss Stock Exchange (SIX Swiss Exchange, VIFN, ISIN: CH0364749348). For more information, please visit www.viforpharma.com.

Vifor Pharma, a company of the Vifor Pharma Group, is a world leader in the discovery, development, manufacturing and marketing of pharmaceutical products for the treatment of iron deficiency. The company also offers a diversified portfolio of prescription and nonprescription medicines. Vifor Pharma's operational headquarters are in Zurich, Switzerland, and the company has an increasingly global presence and a broad network of affiliates and partners around the world. For more information about Vifor Pharma, please visit www.viforpharma.com.

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