

# Formation of Iron Deficiency Anemia in Children with Chronic Gastroduodenitis of Helicobacteriosis Etiology

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## Abstract:

Helicobacter pylori infection is one of the most widespread infections on the globe. Helicobacter pylori infection is involved in the development of iron deficiency anemia (IDA) due to gastroduodenal diseases, which are more common in the pediatric population [1,5]. Currently, there are more and more studies studying the association of Helicobacter pylori infection with the development of food allergies. Helicobacter pylori infection is manifested by various unexpected symptoms of extragastric diseases, one of the most common being iron deficiency anemia [2,3].

In childhood, in addition to gastroduodenal pathology, there is a possibility of the formation of iron deficiency and iron deficiency anemia, vitamin B12 deficiency, growth retardation in adolescents, skin diseases, chronic urticaria, atopic dermatitis, and food allergies against the background of Helicobacter pylori persistence [4].

One of the factors that is commonly associated with the features of clinical forms of Helicobacter pylori-associated diseases is the genetic characteristic of the microorganism, which determines its virulence.

**Keywords:** children, iron deficiency anemia, Helicobacter pylori, chronic gastroduodenitis.

## Introduction

**Objective:** To study the peculiarities of the formation of iron-deficiency anemia in chronic gastroduodenitis of helicobacteriosis etiology.

## Materials and Methods of Research

Biochemical and laboratory methods of analysis were carried out to determine iron and ferritin in blood serum.

Iron deficiency anemia can occur in children between the ages of 12 and 16 during puberty. A number of studies have been conducted in children aged 12 to 16 years, during puberty, with iron deficiency anaemia and extragastric manifestations of helicobacteriosis.

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### **Results**

In 58 children (32 boys and 26 girls), hemoglobin, serum iron levels, serum ferritin, and Helicobacter pylori IgG antibodies were measured. Hemoglobin levels, serum iron, and serum ferritin were measured in the group with and without Helicobacter pylori infection.

The prevalence of anaemia, iron deficiency, iron deficiency anemia, and Helicobacter pylori infection was 26.9%, 15.8%, 23.1%, and 27.3%, respectively. Helicobacter pylori positivity rates in the anemia, hypoferritinemia, and iron deficiency group were 34.2%, 19.5%, and 35.3%, respectively, compared to 19.6% in the non-anemia group; 12.2% in the group without hypoferritinemia and 19.4% in the group with iron deficiency. The positive incidence of Helicobacter pylori was 44.8% compared to 23.7% in the non-anemia group. Serum ferritin levels were significantly lower in the Helicobacter pylori-infected group ( $p = 0.0002$ ).

The association between anaemia and Helicobacter pylori infection was clear in the main group of girls.

### **Inference**

As a result of the research, it has been revealed that IDA is associated with the fact that Helicobacter pylori can interfere with the metabolism of iron absorption in the stomach and exacerbate iron deficiency in adolescents, especially adolescent girls who are more vulnerable to iron deficiency.

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