

10. Ulusal Pediatrik Hematoloji Kongresi

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[HALE ÖREN]

BEYANI

Araştırma Destekleri/ Baş Araştırmacı	Sunumum ile ilgili çıkar çatışmam yoktur.
Çalıştığı Firma (lar)	Sunumum ile ilgili çıkar çatışmam yoktur.
Danışman Olduğu Firma (lar)	Sunumum ile ilgili çıkar çatışmam yoktur.
Hisse Senedi Ortaklığı	Sunumum ile ilgili çıkar çatışmam yoktur.
Konuşmacı Bürosu	Sunumum ile ilgili çıkar çatışmam yoktur.
Onursal Ödenti (ler)	Sunumum ile ilgili çıkar çatışmam yoktur.
Bilimsel Danışma Kurulu	Sunumum ile ilgili çıkar çatışmam yoktur.

Sunumumda aşağıda yer alan ruhsat dışı ilaç ve tıbbi cihazlar ile ilgili bilgi yer almaktadır: “Yoktur”

CONSIDER SPLENECTOMY

Worsening anemia leading to poor growth and development
 -When transfusion therapy is not possible or iron chelation therapy is unavailable

Hypersplenism
 -Leading to worsening anemia, leucopenia or thrombocytopenia and causing clinical problems such as recurrent bacterial infections or bleeding

Splenomegaly
 -Accompanied by symptoms such as left upper quadrant pain or early satiety
 -Massive splenomegaly (largest dimension >20 cm) with concern about possible splenic rupture

Older than 5 years

CONSIDER HYDROXYUREA

β -Thalassemia intermedia homozygous for the *XmnI* polymorphism

Patients with Lepore or $\delta\beta$ -thalassemia

Patients for which a transfusion course is required but are alloimmunized

Patients with the following clinical morbidities
 -Pulmonary hypertension
 -Extramedullary hematopoietic pseudotumors
 -Leg ulcers

Characteristics or complications

Evaluate response Q6 months (hemoglobin, function, quality of life, complications)
 Monitor safety

Diagnosis

FOLLOW UP AND CLOSE OBSERVATION

Acute stress

Hemoglobin decline <5 g/dl
 Surgery
 Infection
 Pregnancy

Progressive changes from childhood

Persistently severely low or declining hemoglobin level in parallel with profound enlargement of the spleen (at a rate exceeding 3 cm/year in periods of maximal growth and development)

Growth failure (height is more indicative of growth pattern than weight)

Poor performance at school

Diminished exercise tolerance

Failure of secondary sexual development in parallel with bone age

Signs of bony changes

Declining quality of life

Complications

Thrombotic or cerebrovascular disease

Pulmonary hypertension with or without secondary heart failure

Extramedullary hematopoietic pseudotumors

Leg ulcers

Frequent hemolytic crisis (hemoglobin H disease)

Discontinue when outcome achieved
 Observe for alloimmunization and iron overload

CONSIDER TAILORED TRANSFUSION THERAPY

β -thalassemias: paradigmatic diseases for scientific discoveries and development of innovative therapies

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ABSTRACT

β -thalassemias are monogenic disorders characterized by defective synthesis of the β -globin chain, one of the major components of adult hemoglobin. A large number of mutations in the β -globin gene or its regulatory elements have been associated with β -thalassemias. Due to the complexity of the regulation of the β -globin gene and the role of red cells in many physiological processes, patients can manifest a large spectrum of phenotypes, and clinical requirements vary from patient to patient. It is important to consider the major differences in the light of potential novel therapeutics. This review summarizes the main discoveries and mechanisms associated with the synthesis of β -globin and abnormal erythropoiesis, as well as current and novel therapies.

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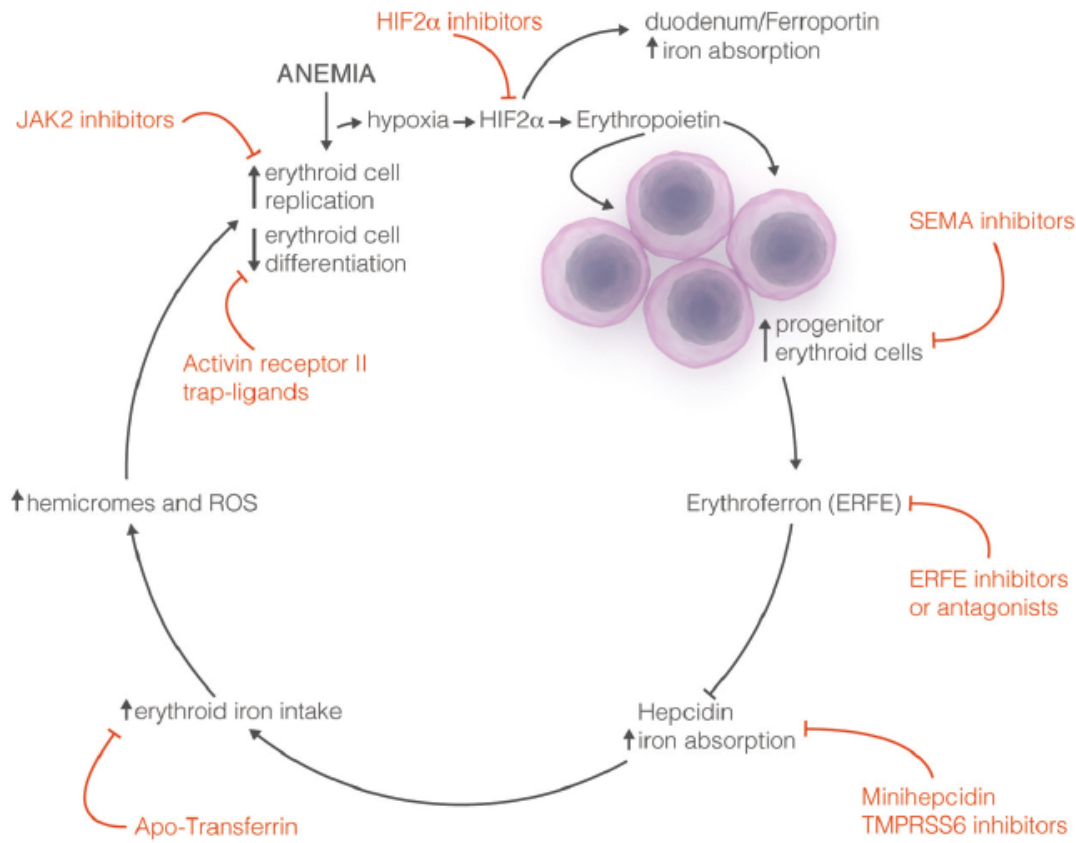


Figure 4. Illustration of the relationship between anemia, hypoxia, Epo, erythropoiesis and iron metabolism in β -thalassemia. Hypoxia, through HIF2 α , contributes to augmented iron absorption by increasing expression of Fpn, Dmt1 and DcytB in the duodenum. Epo, ROS and Growth differentiation factor 11 (Gdf11) alter erythropoiesis, increasing cell proliferation and decreasing cell maturation, contributing to the extramedullary hematopoiesis. As the number of erythroid progenitors increases, more ERFE and less hepcidin are produced, leading to increased iron absorption and increased Tf-sat. Altogether, these modifications contribute to the pathophysiology of β -thalassemia, and exacerbate the ineffective erythropoiesis and iron overload over time. The diagram also shows potential targets and therapeutics that might benefit β -thalassemia, as discussed in the text.