

Erythropoietin deficiency anemia

Erythropoietin is the hormone responsible for stimulating blood formation. It is mainly formed in the kidneys. It has an anti-apoptotic effect, which is why CFU-E (Colony Forming Unit – Erythrocyte = unipotent stem cell of the red blood cell) cells undergo apoptosis when it is lacking. Therefore, the number of erythrocytes and reticulocytes decreases.

Causes of erythropoietin deficiency

- chronic severe kidney damage
- bilateral nephrectomy

Therefore, erythropoietin deficiency anemia is also called renal anemia. The values of erythropoietin are still not zero, the liver is probably responsible for its production and therefore the formation of erythrocytes is also slightly preserved. Erythropoietin can be reduced in chronic inflammatory and tumor diseases. Inflammatory cytokines likely reduce renal reactivity to tissue hypoxia.

Speeches

Manifestations are typical of anemia. Hematocrit is between 15-25% in bilaterally non-frectomized and dialysis patients. Erythrocytes are normochromic and normocytic.

Links

related articles

- Anemia
- Erythropoietin

Source

- NEČAS, Emanuel a spolupracovníci, et al. *Patofyziologická fyziologie orgánových systémů Část I. : 3., zcela přepracované a doplněné vydání.* 1.. edition. Praha : Nakladatelství Karolinum, Univerzita Karlova v Praze, 2004. 379 pp. ISBN 80-246-0615-1
- SILBERNAGL, Stefan – LANG, Florian – LANGMEIER, Miloš, et al. *Atlas patofyziologie.* 2. české. edition. Praha : Grada Publishing, a.s., 2012. 416 pp. ISBN 978-80-247-3555-9