

NURS 8022 EXAM 2 NEWEST ACTUAL EXAM WITH COMPLETE QUESTIONS AND CORRECT VERIFIED ANSWERS (DETAILED ANSWERS) ALREADY GRADED A+ 100% GUARANTEED TO PASS CONCEPTS!!!

Hematopoiesis - ✓✓ANSWER✓✓->>>>>>>>Process of blood cell production in adult bone marrow or the liver and/or spleen of the fetus

Two stages

- Mitosis (proliferation)
- Maturation (differentiation)

Primary site of hematopoietic stem cells - ✓✓ANSWER✓✓->>>>>>>>Bone marrow ("myeloid tissue")

Difference between red and yellow bone marrow -

✓✓ANSWER✓✓->>>>>>>Red marrow produces RBCs, yellow marrow does not produce RBCs

Active bone marrow sites - ✓✓ANSWER✓✓->>>>>>>pelvic bones

vertebrae

cranium

mandible

sternum

ribs

humerus

femur

Factors that increase hematopoiesis - ✓✓ANSWER✓✓-

>>>>>>>(1) conversion of yellow bone marrow, which does not produce blood cells, to hematopoietic red marrow by the actions of erythropoietin (a hormone that stimulates erythrocyte production)

(2) faster differentiation of progenitor cells

(3) faster proliferation of stem cells into progenitor cells

Erythropoiesis - ✓✓ANSWER✓✓->>>>>>>production of RBCs

Sequence of erythropoiesis - ✓✓ANSWER✓✓->>>>>>>Pluripotent hematopoietic stem cell --> committed Proerythroblast/Pronormoblast --> Erythroblast/Normoblast (Hgb synthesis begins) --> Reticulocyte (nucleus is lost; 3 days spent in bone marrow, about 1 day in blood) --> Erythrocyte

\*\* aprox. 1% of RBCs are reticulocytes \*\*

In each step the quantity of hemoglobin increases and the nucleus decreases in size

Erythropoietin - ✓✓ANSWER✓✓->>>>>>>A hormone produced and released by the kidney that stimulates the production of red blood cells by the bone marrow

Always present in plasma

Released in response to low renal oxygenation

- NOT the # of RBCs but rather oxygen delivery
- e RBC production increases within 24 hours; life span 4-12 hours; increased RBC # in 5 days
- Given to dialysis and chemo patients

Reticulocytes - ✓✓ANSWER✓✓->>>>>>>▪ Last immature form of erythroblast

- Contains polyribosomes (globin synthesis) and mitochondria (heme synthesis)

- 24-48 hours after leaving bone marrow for circulation, matures into erythrocyte

- Loses polyribosomes and mitochondria

- Make up 1-2% of RBCs

- Last about 2 days in bone marrow and 1 day in blood continuing to mature

- During time of low HCT time in marrow decreased to as little as 1 day

- Reticulocyte count -- Indicates whether new RBCs are being produced; good indicator of erythropoiesis