

Elevated hemoglobin

(February 2017)

Rationale

Elevated hemoglobin levels may be a manifestation of polycythemia vera or secondary erythrocytosis. Elevated hemoglobin levels may be due to many treatable causes. Unrecognized polycythemia may cause end-organ damage.

Causal Conditions

(list not exhaustive)

- Red cell mass increased
 - a. Polycythemia vera - low or normal erythropoetin (EPO)
 - b. Secondary erythrocytosis - elevated EPO
 - Appropriate EPO elevation (e.g., hypoxemia)
 - Inappropriate EPO elevation (e.g., EPO secreting tumour)
 - c. Relative polycythemia (decreased plasma volume)

Key Objectives

Given a patient with elevated hemoglobin levels, the candidate will diagnose the cause, severity, and complications, and will initiate an appropriate management plan.

Enabling Objectives

Given a patient with elevated hemoglobin level, the candidate will

- list and interpret critical clinical findings, including
 - a. differentiating between primary and secondary erythrocytosis;

- b. assessing the presence of complications;
- list and interpret critical investigations, including
 - a. appropriate laboratory and diagnostic imaging;
- construct an effective initial management plan, including
 - a. referring the patient for specialized care, if necessary;
 - b. counselling and education (e.g., smoking cessation, work environment).