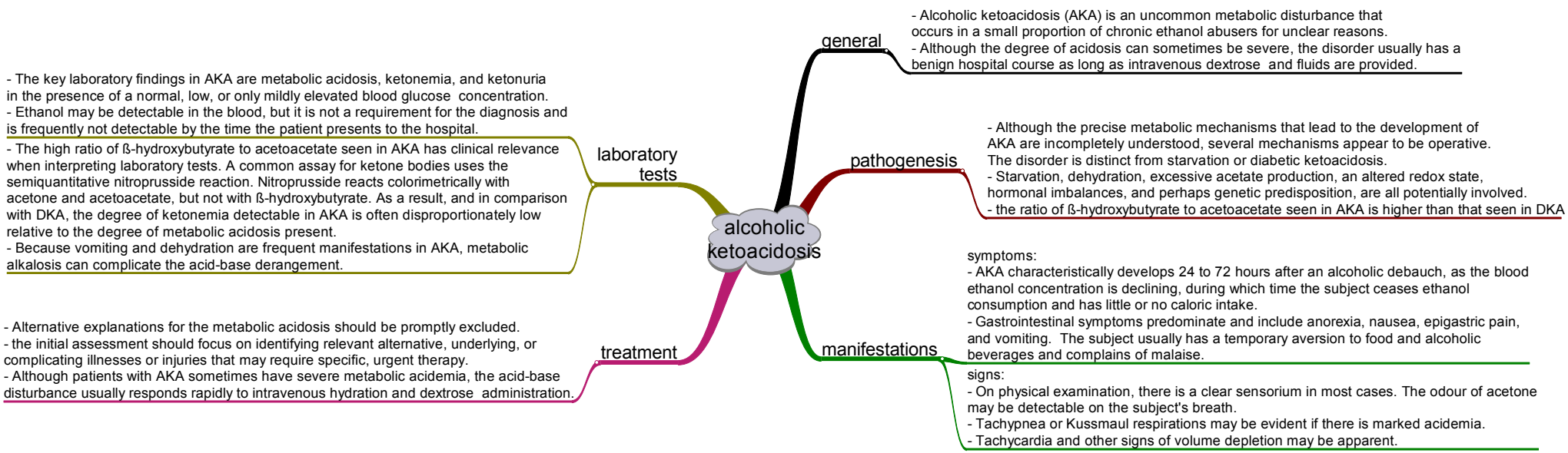
alcoholic ketoacidosis
general
- Alcoholic ketoacidosis (AKA) is an uncommon metabolic disturbance that occurs in a small proportion of chronic ethanol abusers for unclear reasons.
- Although the degree of acidosis can sometimes be severe, the disorder usually has a benign hospital course as long as intravenous dextrose and fluids are provided.
pathogenesis
- Although the precise metabolic mechanisms that lead to the development of AKA are incompletely understood, several mechanisms appear to be operative. The disorder is distinct from starvation or diabetic ketoacidosis.
- Starvation, dehydration, excessive acetate production, an altered redox state, hormonal imbalances, and perhaps genetic predisposition, are all potentially involved.
- the ratio of ß-hydroxybutyrate to acetoacetate seen in AKA is higher than that seen in DKA
manifestations
symptoms:
- AKA characteristically develops 24 to 72 hours after an alcoholic debauch, as the blood ethanol concentration is declining, during which time the subject ceases ethanol consumption and has little or no caloric intake.
- Gastrointestinal symptoms predominate and include anorexia, nausea, epigastric pain, and vomiting. The subject usually has a temporary aversion to food and alcoholic beverages and complains of malaise.
signs:
- On physical examination, there is a clear sensorium in most cases. The odour of acetone may be detectable on the subject's breath.
- Tachypnea or Kussmaul respirations may be evident if there is marked acidemia.
- Tachycardia and other signs of volume depletion may be apparent.
laboratory tests
- The key laboratory findings in AKA are metabolic acidosis, ketonemia, and ketonuria in the presence of a normal, low, or only mildly elevated blood glucose concentration.
- Ethanol may be detectable in the blood, but it is not a requirement for the diagnosis and is frequently not detectable by the time the patient presents to the hospital.
- The high ratio of ß-hydroxybutyrate to acetoacetate seen in AKA has clinical relevance when interpreting laboratory tests. A common assay for ketone bodies uses the semiquantitative nitroprusside reaction. Nitroprusside reacts colorimetrically with acetone and acetoacetate, but not with ß-hydroxybutyrate. As a result, and in comparison with DKA, the degree of ketonemia detectable in AKA is often disproportionately low relative to the degree of metabolic acidosis present.
- Because vomiting and dehydration are frequent manifestations in AKA, metabolic alkalosis can complicate the acid-base derangement.
treatment
- Alternative explanations for the metabolic acidosis should be promptly excluded.
- the initial assessment should focus on identifying relevant alternative, underlying, or complicating illnesses or injuries that may require specific, urgent therapy.
- Although patients with AKA sometimes have severe metabolic acidemia, the acid-base disturbance usually responds rapidly to intravenous hydration and dextrose administration.