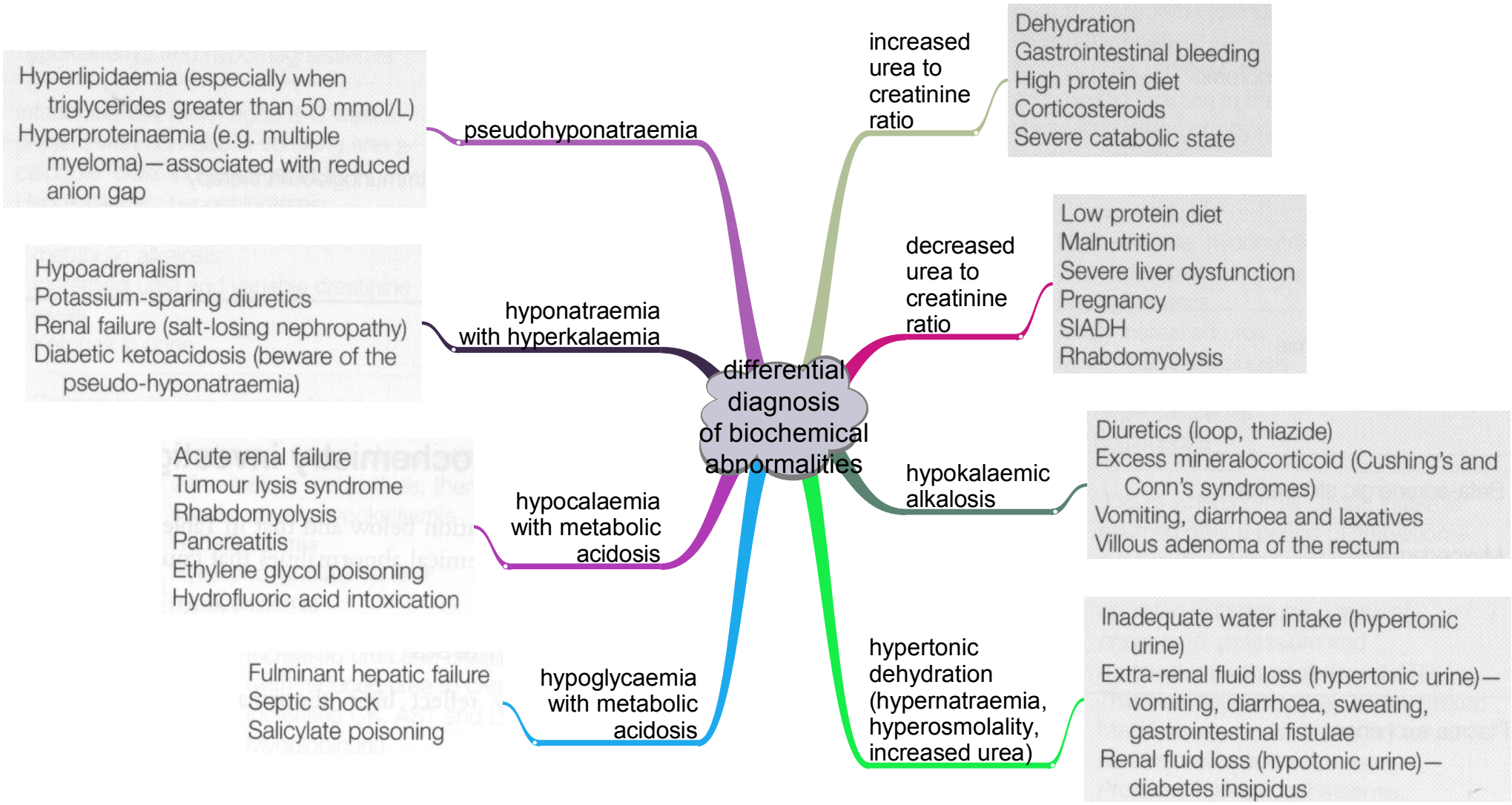
differential diagnosis of biochemical abnormalities
pseudohyponatraemia
Hyperlipidaemia (especially when triglycerides greater than 50 mmol/L)
Hyperproteinaemia (e.g. multiple myeloma)—associated with reduced anion gap
hyponatraemia with hyperkalaemia
Hypoadrenalism
Potassium-sparing diuretics
Renal failure (salt-losing nephropathy)
Diabetic ketoacidosis (beware of the pseudo-hyponatraemia)
hypocalaemia with metabolic acidosis
Acute renal failure
Tumour lysis syndrome
Rhabdomyolysis
Pancreatitis
Ethylene glycol poisoning
Hydrofluoric acid intoxication
hypoglycaemia with metabolic acidosis
Fulminant hepatic failure
Septic shock
Salicylate poisoning
increased urea to creatinine ratio
Dehydration
Gastrointestinal bleeding
High protein diet
Corticosteroids
Severe catabolic state
decreased urea to creatinine ratio
Low protein diet
Malnutrition
Severe liver dysfunction
Pregnancy
SIADH
Rhabdomyolysis
hypokalaemic alkalosis
Diuretics (loop, thiazide)
Excess mineralocorticoid (Cushing's and Conn's syndromes)
Vomiting, diarrhoea and laxatives
Villous adenoma of the rectum
hypertonic dehydration (hypernatraemia, hyperosmolality, increased urea)
Inadequate water intake (hypertonic urine)
Extra-renal fluid loss (hypertonic urine)—vomiting, diarrhoea, sweating, gastrointestinal fistulae
Renal fluid loss (hypotonic urine)—diabetes insipidus