

Rhabdomyolysis

Is a clinical syndrome characterized by rapid breakdown of skeletal muscle, leading to the release of intracellular components into the bloodstream.



Causes

Vascular:

- Embolism
- Vascular insufficiency



Infection:

- Bacterial (C.perfringens, Necrotising fasciitis)
- Viral (HIV, EBV, CMV, Cioxsackie, Flu A & B)



Neoplastic:

- Autoimmune Myositis



Drugs:

- SSRI
- Statins
- Alcohol
- Cocaine
- Volatile Anaesthetics
- Propofol infusion syndrome
- Envenomation (Spider, Snakes)



Traumatic:

- Crush injury
- Prolonged immobilisation
- Heat stroke
- Hypothermia
- Compartment syndrome



Congenital:

- Glycogenesis abnormalitis
- Lipid metabolism
- Mitochondrial disorders
- G6PD deficiency



Idiopathic:

- Strenuous exercise
- Seizures



Manifestations

History: Trauma, Seizure, Immobility, Drugs

Symptoms: Muscle pain, Weakness, Tea-coloured urine

Signs: Compartment, tenderness, fever

Biochem.: High CK, AST, LDH, Lactate, & Urine Myoglobin, AKI, Hyperkalemia, Hypocalcemia, Hyperuricemia, DIC

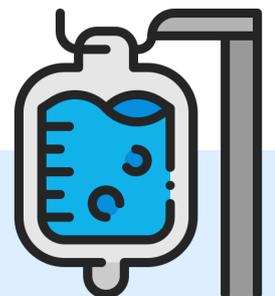
Imaging: CT or MRI: muscle oedema
Ultrasound: decrease compartment perfusion

Why a Kidney injury ?!!

- Myoglobin Tubular obstruction
- Free-radical mediated injury
- Renal vasocinstriction
- Decrease renal blood flow
- Lipid peroxidation



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Management

IV Fluids

 As early as possible within 6 hours

- Aim for urine output >300mL/hr
- Avoid Calcium replacement
- Renal replacement therapy to improve Myoglobin removal
- Use Sodium Bicarbonate only to correct severe systemic acidosis
- Use Mannitol only if urine output >300mL/hr can not be maintained