Rhabdomyolysis

Damage to skeletal muscle with release of intracellular contents. Overall mortality ~5% but varies greatly with cause and pre-morbid condition.

Classical presentation is myalgia/generalised weakness/dark urine, but as with many classical presentations is often not seen.

Typical causes:

- Major blunt trauma (including shaken baby)
- Crush injury
- Electrical injury (lightning, high voltage)
- Heat stroke
- Major burns
- Prolonged immobility (intoxicated or elderly patient on floor)

Less common are infective (viral myositis, bacterial or fungal possible), metabolic defects (more common in children), toxins (including tricyclics, statins, propofol, snake venom), excessive exercise, malignant hyperthermia.

CK elevation is not a defining test (although is sensitive) so no absolute cut-off. >5 times reference suggestive; >2-3 times reference with risk factors warrant further investigation/repeat measurement. Initial rise is present within 12 hours of injury, peak at 36-48 hours. Half-life is around 36 hours.

Major complications are Acute Kidney Injury, hyperkalaemia, and DIC. Other metabolic derangements can occur. These are all treated conventionally.

Treatment:

- Treat underlying cause and any other complications
- Fluid resuscitation – up to 1L/hr – aim for urine output >200ml/hr
- Consider bicarbonate to maintain urine pH > 6.5 (reduce myoglobin precipitation within tubules)
- Mannitol and/or furosemide can be considered once fluid replacement is adequate (increase urine flow, reduce myoglobin cast formation)
- Be alert for compartment syndrome (injury sufficient to cause rhabdomyolysis can also lead to this – failure of CK to reduce after peaking can be a sign)