

A rare case of Non-traumatic multi- compartment syndrome of the Gluteal region and lower left extremity

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Background

- Compartment syndrome most often occurs following long bone injuries, and less likely non-traumatic in etiology (eg chronic exertional compartment syndrome). Additionally, it is extremely rare to have more than one compartment involved. Even more uncommon is a non- traumatic gluteal compartment syndrome in conjunction with an entire lower extremity compartment syndrome in the same patient

Case

A 52 year old male with past medical history significant for throat cancer status post multiple resections, tracheostomy and PEG placement, and hypothyroidism who presented to the ED after being found down, unresponsive and tachycardic at home. At baseline, patient is non-verbal and communicates with writing. He had complained of weakness prior to going to bed. Physical exam of the extremities were limited due to the patient's altered mental status. Labs were notable for hyperkalemia, high anion gap, transaminitis, CK 22416, TSH 51.7. CT head, CTA head and neck showed no acute findings. The patient was started with aggressive hydration for rhabdomyolysis. He received naloxone due to suspicion of opioid overdose and became more alert complaining of pain in his left hip and leg. CT of the lower extremity illustrated diffuse non- specific soft tissue edema about the gluteal region and upper thigh. The patient was taken to the OR for fasciotomy of left gluteal compartment, left thigh and underwent 4 compartment fasciotomy of the lower leg.

Images

- Three gluteal compartments (2):
 - The gluteus maximus, which is the main extensor and external rotator of the leg, is covered on its superficial and deep side by a fibrous fascia.
 - The gluteus medius runs deep and superolateral to the gluteus maximus, and is separated from the gluteus maximus by a deep gluteal fascia, and superficially confined to the gluteus minimus by aponeurosis.
 - Tensor fascia lata, which is the lateral aspect of the gluteus medius and minimus compartments.



- CT revealing significant edema
- CT may aid in the diagnosis of gluteal compartment syndroms (4)



- Outpatient follow up reveals well healing fasciotomy sites. Patient with preservation of motor function in previously affected leg.

Discussion

- This case is important to review to highlight the unique presentation of GCS and raise awareness of the different presentations of non traumatic compartment syndrome due to the severity of the disease process and risk for significant morbidity and mortality that could result. Gluteal compartment syndrome is rare and often associated with prolonged immobilization (2). Conditions resulting in prolonged immobilization should raise the suspicion for the gluteal compartment when compartment syndrome is suspected. Clinical diagnosis with elevated CPK and creatinine should be considered for early management with 3 compartment gluteal fasciotomy to prevent further complications eg sciatic nerve palsy, renal damage and even death.

Conclusion

- The differential of compartment syndrome in patients presenting after prolonged time down, with altered mental status with lab changes consistent with rhabdomyolysis should raise concern for the development of compartment syndrome

References

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