

Leg oedema: First sign of an ischemic leg which precipitated Hyperosmolar hyperglycemic state (HHS) in a newly diagnosed type 2 diabetes patient

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Introduction

- Patients with diabetes are prone to peripheral vascular disease.
- Smoking has long been shown to cause increased risk of peripheral vascular disease¹
- The classic physical signs of acute limb ischemia are the six P's
 - Pain
 - Pulselessness
 - Pallor
 - Paresthesias
 - Paralysis
 - Poikilothermy
- We present a case in which the first presentation of an ischemic limb was leg oedema

Results

- Venous blood glucose- 32.8mmol L-1
- Ketones -1.8mmol L-1
- pH- no acidosis
- Sodium - 159mmol L-1
- Urea - 9.5mmol L-1
- Creatinine -43micromol L-1
- Calculated serum osmolality was 338mOsmol kg-1
- HbA1c- 81mmol mol-1

References

1. Smoking, smoking cessation, [corrected] and risk for symptomatic peripheral artery disease in women: a cohort study by Conen D et al. *Ann Intern Med.* 2011 Jun;154(11):719-26

Case Presentation

- An 81 year old female, current smoker presented to her general practitioner with a three day history of left ankle oedema and was given furosemide
- She had a background of right above knee amputation due to peripheral vascular disease and essential thrombocythaemia
- Five days after commencing furosemide, she developed increased lethargy and confusion
- Clinical examination on admission found that she had a pale, pulseless, cold, ischemic left leg
- Clinically she looked dehydrated and was found to be in atrial fibrillation
- An incidental finding of raised glucose was noted on admission. She had no previous of diabetes
- Intravenous fluids and insulin were commenced
- In light of her premorbid status and ischemic limb, she was considered to be a very high perioperative risk
- After discussion with family, she was started on the palliation pathway

Discussion

- This is a rare presentation of acute leg ischemia in a patient with newly diagnosed diabetes
- She likely had an ischemic left foot which was masked by leg oedema
- Peripheral vascular disease patients, who keep their legs in a dependent position for comfort often present with considerable edema of the feet and ankles
- Numerous factors could have contributed to the ischemia, including:
 - emboli from atrial fibrillation
 - essential thrombocythaemia
 - peripheral vascular disease
- Conversely dehydration from HHS could have precipitated her atrial fibrillation

