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 disease
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• 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

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

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

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

References