

Bilateral Lower Limb Oedema Due To A Distended Urinary Bladder

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ABSTRACT

A 91-year-old Chinese man developed bilateral lower limb oedema due to venous obstruction resulting from a distended urinary bladder. After the bladder was decompressed by urethral catheterisation, the bilateral lower limb oedema promptly subsided. Although a distended urinary bladder is a rare cause of bilateral lower limb oedema, it can be easily recognised by palpation of the lower abdomen and the relief of symptoms by urethral catheterisation is most rewarding.

Keywords: vesical, urinary retention, voiding difficulty, prostate

INTRODUCTION

Bilateral lower limb oedema is a problem commonly encountered in the wards, with the majority of cases being due to fairly obvious causes such as congestive cardiac failure, fluid overload from renal impairment, hypoalbuminemia from liver pathology or nephrotic syndrome as well as various pelvic conditions, including benign and malignant neoplasms. However, it should be noted that there are other rare causes for such a presentation. We report a 91-year-old man with bilateral lower extremity oedema caused by a distended urinary bladder secondary to prostatic carcinoma. A literature review previously published showed that there have been 17 reported cases of venous obstruction due to a distended urinary bladder, with the majority of cases being due to benign prostatic hypertrophy.

CASE REPORT

Mr TBK, a 91-year-old Chinese male, was admitted to the ward with complaints of colicky abdominal discomfort and distension over a 3-day period associated with bilateral lower limb oedema. There was no associated paroxysmal nocturnal dyspnoea, orthopnoea or angina. He had no significant past medical history of note. He was a chronic smoker for the past 50 years. Systemic review disclosed that he had symptoms of prostatism - frequency of micturition with terminal dribbling and hesitancy.

On examination, the patient had bilateral lower limb oedema which extended up to the mid shins. He did not demonstrate any clinical evidence of congestive cardiac failure; the jugular venous pulse

was not elevated and there was no lung crepitation heard. Blood pressure was 130/70 mmHg. The abdomen was distended and the bladder was palpable at the level of the umbilicus. No other organomegaly was detected and there was no clinical evidence of ascites. A rectal examination was unremarkable except for an enlarged prostate with a hard nodule.

The patient was catheterised and 500 mLs of blood stained urine was drained. Within 12 hours, it was noted that the lower limb oedema had subsided. The patient was not given any diuretics. The following day, the urinary catheter slipped out and the patient again developed acute retention of urine with a distended bladder. The lower limb oedema also recurred. He was recatheterised with prompt resolution of the oedema within a few hours.

Investigations including a chest X-ray and an ultrasound of the abdomen were normal. The serum albumin was 37 g/L and the urine labstix was negative for urine albumin. Cystoscopy showed a normal urethra and the prostate was moderately enlarged, with the left lobe obstructing the urethra. A transurethral resection of the prostate was performed and subsequent histology revealed a poorly differentiated large cell carcinoma infiltrating the prostatic tissue. Post-operative recovery was uneventful and the patient was able to void well on discharge, with no recurrence of lower limb oedema.

DISCUSSION

This case illustrates that besides the common causes of lower limb oedema, the physician should be aware of the other rare possibilities. There have been only a few cases reported in the literature of lower limb oedema caused by venous obstruction due to a distended urinary bladder. The first such case was reported in 1960 by Carlsson and Garsten⁽¹⁾. They reported a 3-week-old neonate with posterior urethral valves. A recent literature review by Evans et al in 1995 revealed that there had been 15 other cases in adults reported in the English literature⁽²⁾. They reported a 73-year-old man who presented with an acute history of left lower limb swelling that was clinically diagnosed as an acute iliofemoral deep vein thrombosis. The patient was treated with intravenous heparin before an ultrasound examination of the leg veins showed that there was no venous thrombosis but rather that the left iliac vein was compressed

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extrinsically by a substantially distended bladder. Urinary catheterisation resulted in rapid resolution of the symptoms. This was the same in the other previously reported cases. Fifteen of the 16 reported cases were men, with ages ranging from 48 to 82 years and most of them were elderly. The majority of the cases presented with bilateral lower limb oedema (14 out of 16) and most of the cases were due to benign prostatic hypertrophy (11 out of 16). There was one case of prostatic carcinoma, and other causes included urethral strictures, bladder neck fibrosis and atonic bladders. Our patient's clinical presentation and subsequent course suggested that his lower limb oedema was caused by venous obstruction secondary to a distended bladder, despite the fact that no formal pelvic ultrasound was done. We postulated that both the right and left common iliac veins were compressed extrinsically by the grossly distended bladder around the pelvic rim. The increase in the venous hydrostatic pressure then led to the transudation of fluid out of the capillaries in the lower limbs leading to bilateral lower limb oedema. In the report by Evans et al, the compression of the inferior vena cava by the distended bladder was demonstrated with computed tomography of the abdomen with the use of intravenous contrast medium⁽²⁾. In our patient, the

recurrence of the lower limb oedema when his urinary catheter slipped out and resolved again with decompression of the bladder distension strengthens our case. It is not known why this clinical presentation is not more commonly encountered, but it does highlight to us that we should be aware that such unusual yet easily remedied causes are possible.

Besides lower limb oedema, other unusual presentations of a distended urinary bladder include constipation with rectal tenesmus, unilateral sciatic pain from nerve compression, spontaneous bladder rupture and acute confusional states⁽³⁾. Awareness of such presentations would lead to prompt and effective treatment before complications occur such as infections, hydronephrosis and atonic bladders.

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