CASE REPORT

Solitary Intrarenal Aneurysm

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Introduction

The incidence of renal artery aneurysms (RAA) is 1% among patients undergoing renal angiography. Intrarenal artery aneurysms (IRAA) are the least frequent among the diverse types of RAAs. These are often small, multiple and bilateral. Diagnosis is often made during investigation of hypertension in a younger patient. A large and solitary IRAA of unknown aetiology in an older patient is seldom reported in literature.

Case Report

A 70-year-old normotensive and previously healthy female was admitted to a local hospital with a temperature of 38°C, nausea, vomiting and pain in the right side of the abdomen and right lower thorax. The urine, liver and renal analyses were normal. The C-reactive protein level was 17 times the normal value, and she had a leukocytosis. Chest X-ray revealed right lower lobe pneumonia. Ultrasound examination, to exclude cholecystitis, revealed a 3.5 cm cavity with an arterial flow signal situated in the hilum of the right kidney. Computed tomography (CT) verified an IRAA and she was transferred to the department of vascular services. On arrival her BP was 110/60, temperature 38.5°C, and she was tender in the right lumbar region.

Renographically, the function of the right kidney was reduced to 32%. Digital subtraction angiography showed that the IRAA received its blood supply from an upper polar segmental branch (Fig. 1). Amoxicillin and gentamycin were instituted initially, but were replaced by penicillin after pneumococcus was given in blood cultures. This resulted in normalisation of temperature within 3 days. On the fifth day she complained of intense right lumbar pain and a repeat CT revealed expansion of the aneurysm to 5.5 cm. Trans-catheter-coil-embolisation was carried out, which resulted in total occlusion of the blood supply to the aneurysm and infarction of the upper half of the kidney (Fig. 2). In spite of this, there were no episodes of renal colic, hypertension or haematuria after the procedure. Control renography revealed a further reduction of right renal function to 14%. At 5 weeks' follow-up a totally occluded and partially calcified aneurysm was seen on Doppler. The patient was normotensive and in a good state of health.

Discussion

Hypertension secondary to stenosis of the renal artery is the most common initial symptom of extra renal aneurysms. For IRAA the initial symptom is usually haematuria. Lumbar pain, as in our case, is most probably due to pressure from the aneurysm upon the right renal pelvis resulting in outflow obstruction (Fig. 1). The risk of rupture in RAA is unknown, but a number of series have shown that the risk of rupture for RAA under 2 cm in size is negligible and does not
Fig. 1. Angiogram after selective catheterisation of the right renal artery showing a 5.5 cm large solitary aneurysm located inside the renal hilum receiving its blood supply from a segmental renal arterial branch. Hydronephrosis is due to compression of the renal pelvis by the partially thrombosed aneurysm.

affect long-term survival. Thus, the current trend is to restrict surgery to those patients with expanding aneurysm, intractable hypertension, haematuria, renal infarction secondary to microembolisation and when there is an increased risk of rupture such as in pregnant females or in women expecting to conceive in the future.\textsuperscript{1,5,6}

For multiple, bilateral and symptomatic IRAAs, as in polyarteritis nodosa, the only alternative to open surgery is treatment with steroids, cyclophosphamide and antihypertensive medicines.\textsuperscript{3} For a solitary and symptomatic IRAA, embolisation of the feeding artery is an attractive alternative to partial nephrectomy, because it allows maximal preservation of the renal parenchyma with minimal morbidity.

References


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