Lesson of the Week

Ruptured abdominal aortic aneurysm presenting with ureteric colic

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The diagnosis of ruptured abdominal aortic aneurysm may be difficult. The classic triad of abdominal pain, hypotension, and a palpable abdominal mass is present in only half of all cases.[1] Back pain (80%) is common, but other symptoms such as ureteric colic or haematuria may be the sole complaint, leading to inaccurate diagnosis.

We have recently treated a case of ruptured aortic aneurysm presenting with ureteric colic in which there was a potentially fatal delay before the correct diagnosis was established.

A leaking aortic aneurysm should be excluded in any patient over 55 presenting with a first episode of ureteric colic

Case report

A 57 year old man presented with an 18 hour history of colicky pain radiating from his left loin down to the left iliac fossa and left testicle. He had no urinary symptoms and had had no serious illnesses in the past.

On examination he was found to be hypertensive (210/130 mm Hg). His abdomen was soft with tenderness in the left loin; no masses were palpable and the external genitalia were normal.

Urine analysis showed microscopic haematuria and a diagnosis of left ureteric colic was made. Intravenous urography showed a cyst at the upper pole of the left kidney with no evidence of renal calculi; there was no aortic calcification. An ultrasound scan confirmed the left renal cyst but also showed a 6 cm abdominal aortic aneurysm with posterior thrombus.

Repair of the aneurysm was scheduled for the next morning, but the patient had further left loin pain and an emergency laparotomy was performed. This confirmed a leaking infrarenal aortic aneurysm with a retroperitoneal haematoma which did not include the left kidney or ureter. The aneurysm was repaired and the patient made an uneventful recovery.

Discussion

Over the past 20 years the mortality from elective repair of abdominal aortic aneurysm has progressively fallen.[1] This trend, however, has not been reflected in surgery for ruptured aortic aneurysm, where mortality remains at 40-50%. Successful surgical intervention depends on early diagnosis and prompt resuscitative procedures.

Recent advances in radiological imaging allow for accurate visualisation and diagnosis of aortic aneurysms.[2] Unfortunately, computed tomography and ultrasound are not available in the emergency room and the diagnosis of ruptured aneurysm remains essentially clinical. Ruptured aneurysm may be manifested in many ways, and up to half of patients dying in hospital from ruptured aneurysm do so without the diagnosis being made.[3]

Leaking aneurysm may present with symptoms suggesting urinary tract disease. Ureteric colic may be left or right sided[4] and in some patients will be due to lateral spread of a retroperitoneal haematoma into the paranephric space. This will result in pressure on the ureter and produce ureteric spasm.

In our patient the retroperitoneal haematoma did not include the ureter; there was no evidence of ureteric obstruction and no damage to the genitofemoral nerve to account for the testicular pain. The pain pathway for ureteric colic includes afferent fibres within the sympathetic nerves,[5] and so damage to the sympathetic plexus by an expanding retroperitoneal haematoma may be the explanation for this presentation.

Aortic aneurysms are rare in patients under 50 and ruptured aneurysm very rarely occurs in those under 55.[1] A diagnosis of leaking aortic aneurysm should be considered in any patient over 55 presenting with a first episode of ureteric colic. A lateral abdominal radiograph will show calcification in the wall of the aneurysm in only 70% of cases,[6] and only an urgent ultrasound scan will exclude or confirm the diagnosis in the remainder.

Osler in 1905 drew attention to the difficulties in diagnosing aortic aneurysm.[7] Despite advances in radiological techniques the diagnosis of ruptured aneurysm is still commonly missed and, more often than not, still depends on clinical acumen. Without surgical intervention the condition is invariably fatal.

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(Accepted 12 December 1986)