CASE REPORT

Synchronous renal and pancreatic cancer diagnosed in the investigation of spontaneous retroperitoneal haemorrhage

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ABSTRACT

Spontaneous retroperitoneal haemorrhage is an uncommon entity. It is even rarer when the underlying cause is associated with renal disease. In several cases the non-traumatic rupture of a kidney requires an emergency surgical intervention as the underlying disease only becomes clear intra-operatively. Most patients with a spontaneous kidney rupture have a renal tumour. Of these renal tumours, angiomyolipomas show a particular tendency to rupture while solid renal carcinomas are less likely to break. Hereby we present a patient who presented with an acute onset of spontaneous retroperitoneal haemorrhage from renal cancer rupture which was accompanied with pancreatic cancer. The importance of considering the possibility of spontaneous kidney rupture in the evaluation of patients presenting with spontaneous retroperitoneal haemorrhage is stressed.

Key words

renal cancer, retroperitoneal haemorrhage, spontaneous kidney rupture

Introduction

Spontaneous retroperitoneal bleeding is a distinctive clinical entity that can present in the absence of specific underlying pathology or trauma. Isolated case reports exist in the literature stating that spontaneous retroperitoneal haemorrhage may occur without any precipitating factors, such as spontaneous haemorrhage into a pre-existing benign adrenal cyst or bleeding from a left inferior phrenic
artery. Spontaneous bleed can occur in patients with factor IX or factor X deficiency, in patients with von Willebrand disease, or in patients with antiphospholipid syndrome. It is most commonly seen in association with patients with anticoagulation therapy, bleeding abnormalities, and haemodialysis, and may represent one of the most serious and potentially lethal complications of anticoagulation therapy. In contrast, it is rare when the underlying cause is associated with renal disease.  

Spontaneous rupture of the kidney affects either the collecting system or parenchyma. Whereas rupture of the collecting system can be satisfactorily managed by drainage (either a percutaneous nephrostomy or ureteral tube drainage), rupture of the renal parenchyma accompanied by severe renal haemorrhage demands surgical exploration of the kidney. In many instances a nephrectomy will be necessary, especially in patients with a ruptured tumour, where nephrectomy remains the treatment of choice. Hereby we present a patient who presented with an acute onset of spontaneous retroperitoneal haemorrhage from renal cancer rupture which was accompanied with pancreatic cancer. The importance of considering the possibility of spontaneous kidney rupture in the evaluation of patients presenting with spontaneous retroperitoneal haemorrhage is stressed.

Case report

A 71-year-old man was directed to our department because of right flank pain and an increasing mass in his right flank. His urological history was normal and he did not have a history of trauma. Physical examination showed a palpable mass and tenderness in his right flank. Laboratory studies, including a complete blood count, electrolytes, renal function tests, coagulation studies and urine analysis, were normal, with the exception of a low serum haemoglobin concentration, elevated amylase and bilirubin levels and a microscopic haematuria. Abdominal ultrasound and computed tomography showed a large subcapsular renal haematoma and perirenal haemorrhage due to a rupture of the right kidney and an abnormal imaging of the head of the pancreas. Because of the haemodynamic instability, the kidney was explored through a flank incision and a right nephrectomy was performed. Histological examination of the specimen disclosed a rupture of a renal cell carcinoma. Two weeks later, patient underwent Kausch-Whipple procedure for the treatment of pancreatic cancer. Histological examination diagnosed pancreatic adenocarcinoma. Despite chemotherapy he died six months after initial diagnosis.

Discussion

Non-traumatic retroperitoneal haemorrhage due to a spontaneous kidney rupture is a known, but uncommon, entity. However, more cases have been reported in the last few years, mainly due to new imaging techniques. This disorder was originally described by Wunderlich in 1856, who pointed out that a peri-renal haematoma may be due to spontaneous kidney rupture. Since then, more than 300 cases have been reported. By definition, a spontaneous rupture of the kidney requires the absence of recent instrumentation, surgery or trauma. At presentation the clinical picture usually include the classical ‘Lenk’s triad’, consisting of acute flank pain, tenderness and symptoms of internal bleeding. In most instances the spontaneous renal rupture is associated with underlying diseases of the kidney, and only occasionally has the spontaneous rupture of an otherwise normal kidney been reported. Renal tumours account for most cases, with clear cell carcinoma being predominant, while renal oncocytomas are by far the less common. Angiomyolipomas and simple renal cysts are relatively common causes of spontaneous retroperitoneal haemorrhage associated with renal tumor rupture. Vascular disease is the next most common cause, whereas infection, nephritis and blood dyscrasia occur less commonly. The cause of renal cancer rupture with haemorrhage is unclear, however, it has been hypothesised that spontaneous
bleeding starts at the microvascular level, and large tumours’ vessels become disrupted or stretched as the haematoma enlarge. Regarding cystic renal cancers, it is not known whether expansion with increased intracystic pressure occurs, with the subsequent tearing of blood vessels, or whether haemorrhage into the cyst is the first event, with subsequent rupture from cyst expansion.\(^{10}\) Of note, although, the lung, breast and pancreas are the most common primaries which produce renal metastases in our case the coexistence of two malignancies was coincidental. Of note, in most cases peri-renal haemorrhage requires surgical intervention especially when a solid renal mass lesion is involved. In such a case the recommended treatment is radical nephrectomy. However, in some cases of a small tumour a partial nephrectomy as a nephron-sparing surgery may offer a surgical alternative.

**Conclusion**

In conclusion, non-traumatic retroperitoneal haemorrhage is uncommon and even rarer when the disease derives from the kidney. Most cases are treated as an emergency and the use of imaging techniques such as ultrasound and computed tomography aid diagnosis. The high incidence of kidney tumours among these patients warrants radical surgical intervention. Although there is a case for conservative surgical treatment to preserve renal parenchyma, nephrectomy is the treatment of choice in patients with spontaneous retroperitoneal haemorrhage associated with renal cancer rupture.

**Περίληψη**

Η αυτόματη οπισθοπεριτοναϊκή αιμορραγία είναι μια σχετικά ασυνήθιστη και δυνητικά θανατηφόρα οντότητα. Είναι μάλιστα ακόμα πιο σπάνια όταν η υποκείμενη αιτία σχετίζεται με κάποιο νόσημα του νεφρού που συχνότερα είναι όγκοι (καλοήθεις ή κακοήθεις). Απο αυτούς, τα αγγειομυολιπώματα δείχνουν μια ιδιαίτερη τάση για ρήξη ενώ τα συμπαγά καρκινώματα είναι λιγότερο πιθανό να διαραγούν. Η διάγνωση της αυτόματης ρήξης του νεφρού είναι δύσκολη ειδικά όταν υπάρχει και δευτερη δυνητική εστία οπισθοπεριτοναϊκής αιμορραγίας και προϋποθέτει την απουσία πρόσφατης χειρουργικής επέμβασης ή τραυματισμού. Η στενοχωρική τομογραφία είναι η διαγνωστική εξέταση ελέγχου, καθώς μπορεί να εκτιμήσει με ακρίβεια τη θέση και την έκταση της αιμορραγίας και να αναδείξει την υποκείμενη παθολογία. Η περαιτέρω βελτίωση των σύγχρονων απεικονιστικών μεθόδων έχει ενισχύσει την επιχειρηματολογία υπέρ της συντηρητικής αντιμετώπισης της αυτόματης ρήξης του νεφρού ωστόσο σε ορισμένες περιπτώσεις υποκείμενη νόσος γίνεται μόνο σαφής διεγχειρητικά. Η τελική απόφαση για συντηρητική ή χειρουργική αντιμετώπιση εξαρτάται από την αιτία της ρήξης και την αιμοδυναμική σταθερότητα του ασθενούς και για τον λόγο αυτό σε ικανό αριθμό περιστατικών μη-τραυματικής ρήξης του νεφρού απαιτείται επείγουσα χειρουργική επέμβαση. Στο παρόν άρθρο παρουσιάζουμε την περίπτωση ενός ασθενούς ο οποίος παρουσίασε αυτόματη οπισθοπεριτοναϊκή αιμορραγία από ρήξη νεφρικού καρκίνου ο οποίος συνυπήρχε με καρκίνο του παγκρέατος. Η σημασία της ενδεχόμενης αυτόματης ρήξης νεφρού στην αξιολόγηση των ασθενών που εμφανίζουν αυτόματη οπισθοπεριτοναϊκή αιμορραγία τονίζεται διεξοδικά στο άρθρο αυτό.

**Λέξεις ευρετηριασμού**

καρκίνος νεφρού, οπισθοπεριτοναϊκή αιμορραγία, αυτόματη οπισθοπεριτοναϊκή αιμορραγία
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