

CASE REPORT

Retroperitoneal haematoma after paracetamol increased anticoagulation

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Drugs containing paracetamol are widely used as analgesics but may result in increased anticoagulation in patients who take warfarin, the mechanism being unclear. Retroperitoneal haemorrhage is a serious and well described complication in patients who develop increased anticoagulation; this may result in a femoral neuropathy. Both conservative and surgical treatments have been advocated for this complication.

CASE REPORT

A 62 year old woman attended the accident and emergency (A&E) department after falling on a pavement, landing on both knees. The patient had been receiving the anticoagulant warfarin after a previous mitral valve replacement; she had taken an average dose of 4.7 mg daily for several months, with stable anticoagulant control. Her usual medication also included digoxin, spironolactone, burinex, prednisolone and verapamil. She complained of pain in both knees and was having difficulty weight bearing on the left leg. Examination showed extensive bruising over both knees and tenderness over the left patella and upper tibia. Radiography of the left knee and lower leg showed no fracture and after successful mobilisation with a walking stick she was discharged.

She returned four days later after a sudden exacerbation of her left knee pain associated with paraesthesiae over the patella and a sensation of the knee "giving way" on attempted weight bearing. On examination she was holding the left leg flexed at the hip and externally rotated as well as flexed at the knee. She was referred to an orthopaedic surgeon who felt that the patellar ligament might have ruptured. An ultrasound scan showed an intact patellar ligament and the patient was referred back to the A&E department medical staff. Further examination in the A&E department revealed sensory loss to pinprick in the left L2,3,4 dermatomes with loss of the associated knee jerk reflex and an inability to extend the knee actively. Her haemoglobin level was 11.0 g/dl and the INR (international normalised ratio) was 7.5; the INR had not been measured at first presentation. The INR one month previously was 2.5 with no subsequent change in warfarin or other medication dose. A retroperitoneal haematoma resulting in a femoral nerve root compression was suspected. Two units of fresh frozen plasma and 1 mg vitamin K intravenously were given after consultation with a haematologist, the INR decreased to 1.9 but the haemoglobin decreased to 8.8 g/dl. A computed tomogram of the lower abdomen confirmed a left sided iliacus haematoma (fig 1), which was treated conservatively after surgical consultation. The patient revealed that since the initial injury she had taken 8–10 tablets of paracetamol (500 mg per tablet) to control her pain, prior to this she had only taken paracetamol very occasionally for osteoarthritis. When reviewed four months later, the patient had signs consistent with a complete femoral nerve palsy but could



Figure 1 Computed tomogram showing a left iliacus haematoma (arrow).

mobilise with the aid of two walking sticks and a knee brace. Electromyographic studies confirmed muscle atrophy consistent with femoral nerve denervation.

DISCUSSION

The ingestion of even modest amounts of paracetamol is an under-recognised and common cause of deranged anticoagulation in patients who regularly take warfarin.¹ Although it is well known that prolonged use of paracetamol increases the effect of warfarin,² even a short course of paracetamol containing compounds can lead to a rapid rise in the INR.³ A review of the available evidence suggests that patients taking warfarin should take no more than 2.5 g of paracetamol weekly and greater doses of paracetamol carry a significant risk of increasing the INR to 6 or above.⁴ Both paracetamol and warfarin undergo hepatic metabolism but the mechanism by which warfarin is potentiated is unclear.

Warfarin therapy is associated with a variety of haemorrhagic complications and these are usually associated with inadequate control of anticoagulation.⁵ However, spontaneous retroperitoneal bleeding resulting in femoral neuropathy has been well described in anticoagulated patients, sometimes occurring within the therapeutic INR range.⁶ The incidence of the condition is unknown; diagnosis sometimes only becomes apparent on postmortem studies because of the difficulties in diagnosing the condition.^{7,8} The differential diagnosis includes trauma to the iliacus muscle after hip extension, retroperitoneal abscess, psoas abscess and septic arthritis of the hip.⁹ The mechanism of injury in this patient did not appear to involve hip extension, but a traumatic component to the haematoma cannot be ruled out. The femoral nerve is a branch of the lumbar plexus, receiving branches from the anterior rami of the second, third and fourth lumbar nerves. The nerve penetrates the psoas muscle and lies in the groove between the iliacus

Abbreviations: INR, international normalised ratio

and psoas muscles, covered by strong transversalis fascia, rendering it susceptible to compression by an expanding iliacus muscle haematoma. It remains unclear as to why the iliacus muscle is particularly vulnerable to intramuscular haemorrhage in anticoagulated patients and postmortem studies have failed to reveal an obvious source of bleeding.³

Treatment of retroperitoneal haematoma in an anticoagulated patient requires correction of any hypovolaemic shock, and discontinuation of anticoagulant therapy. Reversal of anticoagulation is not always required¹⁰ and should be guided by consultation with a haematologist. Many patients treated without surgical intervention are left with varying degrees of neurological disability.¹¹ Operative intervention^{9 12 13} and more recently percutaneous decompression under ultrasound control^{14 15} leads to rapid and complete recovery of femoral nerve function.

This case illustrates the need to be vigilant for possible drug interactions when patients are taking warfarin and to be aware of what clinical manifestations these may take. Patients on anticoagulants should be warned of the risks of concomitant paracetamol ingestion and the INR should be closely monitored.

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