Epidural haematoma after epidural catheter removal under multiple anticoagulant therapy: report of two cases

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Abstract

We report two cases of epidural haematoma that probably developed after removal of the epidural catheter in patients receiving multiple anticoagulant and antiplatelet therapy. The first case is a 77-year-old male patient who underwent femoropopliteal artery bypass grafting surgery. The second case is a 77-year-old woman who underwent a semi-total replacement of the right hip, three days after she had a subtrochanteric fracture. Emergency laminectomy was performed in both patients but none experienced a full recovery.

Key words: epidural haematoma, antiplatelets, anticoagulants.

Case report

The first case is a 77-year-old male patient who underwent femoropopliteal artery bypass grafting surgery. He had a medical history of hypertension, coronary artery disease and type II diabetes mellitus. His medications included nebivolol, amlodipine, furosemide, isosorbide mononitrate and clopidogrel (that was discontinued 7 days before operation and substituted by enoxaparin sodium 4,000 IU subcutaneously [SC] twice daily). The second case is a 77-year-old woman who underwent a semi-total replacement of the right hip, three days after she had a subtrochanteric fracture. She had a medical history of coronary artery disease and left heart failure, atrial fibrillation and type II diabetes mellitus. Her medication included furosemide and short acting insulin. During her hospitalization she was given enoxaparin 6,000 IU SC once daily. The last dose of enoxaparin sodium was injected 24 and 12 h respectively before scheduled operations. Coagulation tests and thrombocyte count before both operations were within normal values. A single pass, atraumatic epidural (ED) was performed at the L3–L4 interspace with an 18-gauge Tuohy epidural needle and an epidural catheter was placed in both cases and remained for postoperative analgesia. Both patients recovered sensation and full motor power in the lower limbs after the end of the operation. Removal of the ED catheter was decided, in the first case, on the 1st postoperative day. Coagulation tests and thrombocyte count were checked and found within normal values. The patient had normal sensation and strength of the lower limbs at the time of catheter removal. Two hours after catheter removal
the patient was given enoxaparin 4,000 IU SC. At that time the patient started complaining of severe backache, especially at the site of the ED puncture, and 2 h later he started complaining of emerging motor loss in the lower limbs. Neurological examination of the patient revealed paraplegia with no sensory deficit. The magnetic resonance imaging that was performed showed an epidural haematoma (EH) extending from T10 to L2 and compressing the spinal cord. An emergency laminectomy from T5 to L2 was performed 10 h after the recognition of paraplegia and the EH was evacuated. Over the next 2 months he started recovering motor power in the lower limbs, but never experienced a full recovery, since he died because of sepsis due to an infection of the surgical trauma on his back. The second patient had her ED catheter accidentally removed on the 2nd postoperative day approximately 2 h after the administration of enoxaparin (she received enoxaparin 6,000 IU once daily). Two h later, the neurological examination showed emerging weakness in the left leg and a sensory deficit at the T8-T10 dermatomes (especially on the left). The MRI of the spine that was then performed revealed an epidural haematoma (she received enoxaparin 4,000 IU SC. At that time the patient started complaining of severe backache, especially at the site of the ED puncture, and 2 h later he started complaining of emerging motor loss in the lower limbs. Neurological examination of the patient revealed paraplegia with no sensory deficit. The magnetic resonance imaging that was performed showed an epidural haematoma (EH) extending from T10 to L2 and compressing the spinal cord. An emergency laminectomy from T5 to L2 was performed 10 h after the recognition of paraplegia and the EH was evacuated. Over the next 2 months he started recovering motor power in the lower limbs, but never experienced a full recovery, since he died because of sepsis due to an infection of the surgical trauma on his back. The second patient had her ED catheter accidentally removed on the 2nd postoperative day approximately 2 h after the administration of enoxaparin (she received enoxaparin 6,000 IU once daily). Two h later, the neurological examination showed emerging weakness in the left leg and a sensory deficit at the T8-T10 dermatomes (especially on the left). The MRI of the spine that was then performed revealed an epidural haematoma (she received enoxaparin 4,000 IU SC. At that time the patient started complaining of severe backache, especially at the site of the ED puncture, and 2 h later he started complaining of emerging motor loss in the lower limbs. Neurological examination of the patient revealed paraplegia with no sensory deficit. 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The early recognition and evacuation of the EH are of major importance for a good outcome. It has been observed that patients who were operated on within 12 h of developing symptoms compared with those operated on later had a better outcome, while other anaesthetists propose an even shorter interval of < 8 h for improving prognosis [3]. The evacuating operation in both of our cases was performed at the latest permitted limits. This fact, in combination with the advanced age and the multiple medical problems of our patients, might have contributed to the bad outcomes.

These two cases underscore the necessity of close neurological monitoring in every patient having an ED catheter for postoperative analgesia, especially if anticoagulant treatment is administered.

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