Short clinical case

Recurrence spinal epidural hematoma: Case report

Hématome épidual récidivant du rachis : à propos d’un cas

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A B S T R A C T

We report the case of a man of 65 who, at 20 and 37 days from surgery of C6 corpectomy, experienced two epidural hematomas at C7-D1. We assume that the pathogenic cause of this rare disease was an overlap between three main factors: the surgical aggression of the internal anterior epidural venous plexus; a possible increase of intra-thoracic pressure due to chronic obstructive pulmonary disease; and double antiplatelet drug therapy.

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R É S U M É

Nous rapportons le cas d’un homme de 65 ans qui, à 20 et 37 jours d’une corpectomie C6, a présenté deux hématomes épiduraux au niveau de C7-D1. Nous supposons que la cause pathogène de cette affection rare résulte de la conjonction de trois principaux facteurs: aggression chirurgicale du plexus veineux épidual antérieur interne, possible augmentation de la pression intrathoracique en raison de la maladie pulmonaire obstructive chronique associée, et, double thérapie antiplaquettaire.

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Spontaneous spinal epidural hematoma is a rare clinical entity; recurrence after reabsorption or evacuation is even a rarer event [1–3]. For this reason, we think it is interesting to report our clinical case.

1. Case report

In 2009, a 65 years old man with a history of chronic obstructive pulmonary disease and acute heart attack and under dual antiplatelet therapy (aspirin and clopidogrel), came for the first time to our centre complaining intense neck pain, progressive walking difficulty and weakness of the upper arms, with major difficulty in feeding himself. The examination showed marked tetra-hyperreflexia, motor deficit involving the left upper arm, and frank hypotethenia on both legs. The MRI findings showed a cervical spondylotic myelopathy at C5-C6 level. He was treated surgically with anterior cervical disectomy with fusion. Tetra-hyperreflexia unchanged, but the patient’s mobility and sensory ability improved significantly. At the time of the first surgery, the drugs could not be withdrawn for surgical purpose but no hemorrhagic phenomena took place.

In October 2011, the patient showed a dramatic clinical worsening. The patient referred a recent and abrupt worsening of the neck pain, with increasing walking and feeding difficulties. At the neurological examination, he was found to have tetra-hypoesthesia with tetra-hyperreflexia. The MRI showed the presence of an adjacent space pathology involving the C6-C7 level, below the one previously treated, plus massive hyperostosis and calcification of the posterior longitudinal ligament. Few days later, the patient underwent an anterior C6 corpectomy, with cage-in-peek replacement of the soma. Postoperative course was uncomplicated and regular without notes of any clinical relevance. The first control, 15 days later, showed a significant improvement of both pain and neurological symptomatology. The patient had continued taking dual antiplatelet therapy as usual.

Twenty days after the surgery the patient was admitted at the emergency department of our hospital with an acute flaccid tetra-paresis (motor deficit: Royal Medical Council 4/5),
Fig. 1. The T2 weighted MRI shows: A. A huge epidural hematoma involving the level below the ones previously treated. B. A very small remnant of the original epidural hematoma, and a spinal cord free from any compressive element 5 days after surgery.

L’IRM pondérée en T2 montre : A. Un hématome épidural impliquant le niveau au-dessous de celui déjà traité. B. Un résidu de l’hématome épidural original, et une moelle épinière libre de tout élément de compression, cinq jours après la chirurgie.

Fig. 2. The T2-weighted MRI scan shows: A. The relapse of the epidural hematoma. B. A little remnant of the second epidural hematoma recurrence 12 days later.

L’IRM pondérée en T2 montre : A. La réapparition de l’hématome épidural. B. Douze jours plus tard, un résidu de la récidive du deuxième hématome épidural.
tetra-hyperreflexia and once again fairly strong neck pain. The MRI showed the presence of a huge anterior epidural hematoma compressing the spine at C7-D1 level, below the levels previously treated. We immediately performed a posterior C7-D1 decompressive laminectomy. The postoperative course was regular. Five days after surgery an MRI showed only a very small remnant of the original epidural hematoma, and a spinal cord free from any compressive element and completely surrounded by LCS (Fig. 1). The 7th and 14th day-controls showed a significant clinical improvement and a notable regression of the tetra-paretic symptomatology.

On day 17 after the decompressive laminectomy, the patient came back to the emergency department with the same acute tetraparetic symptomatology. The MRI showed a recurrent epidural hematoma at the same level. The patient was treated conservatively; antiplatelet drugs treatment was definitively suspended. An in-depth study of the coagulation parameters was performed. Prothrombin time (PT), partial thromboplastin time (PPT), thrombin time (TT), bleeding time (BT) and tromboelastography provided no evidence of haemorrhagic diathesis as well as the dosing of the VIII, IX, and XIII factors. Platelets were within the normal range from both the quantitative and the qualitative point of views (No, platelet distribution width [PDW]). Fibrinogen, fibrine degradation produces (FDP) and D-Dimer witnessed, instead, for a functional coagulative process. The MRI, before the patient’s discharge, showed only a little remnant of the second epidural hematoma recurrence: our conservative strategy was successful (Fig. 2). The patient was discharged from our department in good medical condition and showing progressive improvement of the neurologic symptomatology. He was sent to a neurological rehabilitation department. At the time of writing, in the lapse of five months, no relapse was recorded and neurological conditions appear on further improvement.

2. Discussion

The causes of both epidural hematomas remain unclear. We have rejected the possibility of an epidural angiomia because all the MRIs performed before and after the surgeries haven’t showed any suspicious vascular malformation. Haematological examination provided no sufficient evidence of coagulopathy or other pathologies of the aggregation process related to the antiplatelet treatment. Given our patient’s general condition, we assumed an overlap between three main pathogenetic factors:

- the surgical aggression of the internal anterior epidural venous plexus at the level of the first surgery;
- a possible increase of intra-thoracic pressure due to the chronic obstructive pulmonary disease, chronically transmitted to the internal epidural venous plexus;
- double antiplatelet drug that causes a bleeding risk increase.

To our knowledge, there are only few reported cases of spontaneous recurrent spinal epidural hematoma in literature. This case can be considered as something between a spontaneous form and a traumatic form. In fact, the time of hematoma formation is inconsistent with a perioperative bleeding as well as the same location is fully inconsistent with a form related to the presence of hemorrhagic diathesis. It is clear that any new, progressive neurological symptom in antiplatelet drug treated patients should never be undervalued. Clopidogrel and aspirin or other anticoagulant therapeutic options, like warfarin, have shown a powerful hemorrhagic potential in high risk cardiovascular patients [4].

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

References