CASE REPORT

Complex partial status epilepticus in a patient with Crohn's disease

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SUMMARY

Few cases of Crohn's disease complicated with meningitis and epidural abscess have been described in literature. We present a case of a 42-year-old former smoker female patient diagnosed with Crohn's disease in September 1995 (with severe nutritional problems). On 20 February 2012, she was admitted due to a probable sepsis (without any previous treatment). After several days she developed a confusion syndrome (probable Wernicke's disease). On 5 March 2012, the patient presented with a febrile episode of 39°C. Two days later, the patient presented aphasia and paraparesis, and 3 days later she presented a complex partial status epilepticus. A lumbar puncture was performed and showed 131 leucocytes (63% granulocytes) and proteins 296.3. The abdominopelvic CT scan revealed a presacral collection that seem to extend cranially towards the lumbosacral spine. The lumbar MRI confirmed the lumbar epidural abscess secondary to the fistulisation of the presacral abscess.

BACKGROUND

Few cases of Crohn's disease complicated with meningitis and epidural abscess have been described in literature.

CASE PRESENTATION

We present a case of a 42-year-old former smoker female patient diagnosed with Crohn's disease in September 1995, based on a marked ileal involvement, with the presence of ureterohydronephrosis. During admission, the patient attempted suicide. She was admitted on several occasions and finally underwent a broad ileocolic resection with a colostomy. During the course of her disease, she required nutritional support, and a weight loss of up to 29 kg due to irregular food intake associated to subocclusive episodes was described.

In January 2005, the patient was admitted for presenting with a purulent exudate in the perianal/vulvar area; her abdominopelvic CT scan showed multiple abscesses with multiple fistula-like trajectories in the perineal region that were compatible with fistulas. Owing to the activity of the disease, treatment with azathioprine was started in 2005, which was discontinued by the patient, and with infliximab from 2005 to 2007, and the patient herself finally abandoned the follow-ups in the department of gastroenterology.

The last two admissions were produced in 2010, with precoccygeal abscesses in the first admission, and with prolonged bed rest due to depression with a cachectic state in the second.

On 20 February 2012, she presented to the emergency department due to a probable sepsis. She reported a 1-month history of malaise, with vomiting and a fall with trauma to the sacrum a few days earlier. On admission, she presented with hyponatraemia, hypokalaemia and acute renal failure, and her X-ray showed a suspected bronchoaspiration. She was admitted to the intensive care unit (ICU), where a presacral abscess with fistulas was noted in the abdominopelvic CT scan, as well as important pulmonary emphysema. A pneumococcus antigen was detected in urine, and peptostreptococcal antigen was detected in blood cultures. Treatment was started with meropenem. The patient required sedation and orotracheal intubation.

On 1 March 2012, when the sedation was withdrawn, the patient alternates phases of incoherent awakening, with phases of mutism and phases of unstructured, incongruent and delirious speech. A consult with the department of psychiatry was requested, with the diagnosis of acute confusion syndrome. The patient was transferred later to the department of internal medicine, where a horizontal nystagmus was noted on physical examination, the diagnostic impression being Wernicke's disease, for which thiamine was provided and a brain MRI and an assessment by the neurology department were requested.

On 5 March 2012, the patient presented with a febrile episode of 39°C, the probable infectious focus being the central intravenous line or the inflammatory bowel disease. Treatment with vancomycin was instituted. Two days later, the patient was assessed by Neurologist, and she did not present with nystagmus or meningeal signs, her spontaneous speech was absent, she could produce incoherent phrases with dysarthria and was able to understand phrases, although with some difficulty. She had tremor, with some action myoclonus and with a paraparesis of 3/5 on the right side and of 2/5 on the left side. The EEG showed a mild slowing of background activity.

One day later, the presence of multiresistant *Acinetobacter* was identified in the blood culture; vancomycin and meropenem were thus discontinued and colistin was started. The follow-up EEG showed worsening, with a greater slowing and with the appearance of triphasic waves that were compatible with a moderate metabolic encephalopathy.

On 10 March 2012, the patient presented with a persistent myoclonus in her right arm, with a cephalic deviation to the left. A lumbar puncture was carried out and showed 131 leucocytes, 63% granulocytes,

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Figure 1 (A) Sagittal T1 sequences and (B) sagittal T2 sequences of lumbar MRI showing a lumbar epidural abscess (white arrows) secondary to the fistulisation of the presacral abscess.

with proteins at 296.3 and normal glucose levels. The adenosin deaminase was of 21.2, with a negative C reactive protein and culture. Treatment with levetiracetam, phenytoin, meropenem, linezolid and rifampicin was started, and she was transferred to the ICU, where she remained for 2 days. An EEG was carried out that showed a triphasic activity in the left frontocentral region.

Once in the hospital ward, the study was completed; the MRI showed a minimal cortical hyperintensity in the left temporal and in the right frontal lobes in diffusion sequences, and a follow-up cerebrospinal fluid showed improvement (16 leucocytes, 55% lymphocytes and 193 proteins, with normal glucose). The abdominopelvic CT scan revealed a presacral collection that seemed to extend cranially towards the lumbosacral spine, with dorsal paraspinal collections; it was not possible to rule out an involvement inside the canal at the L5-S1 level. The lumbar MRI confirmed the lumbar epidural abscess secondary to the fistulisation of the presacral abscess (figure 1A,B). *Streptococcus oralis* was isolated from the culture of one of the abscesses of the dorsolumbar musculature, and it is presumably the germ involved in the epidural abscess. Piperacillin/tazobactam was initiated. On 17 April 2012, the patient was discharged home and the treatment was changed to ciprofloxacin. After 1 year, the patient remained asymptomatic.

DISCUSSION

Early age of disease onset, cigarette smoking and extensive disease are some predictors of an aggressive course in Crohn's disease¹; all of these were present in our patient. Moreover impairment of the enteral resorption, side effects associated with immunosuppressive drugs and a disturbance of the autoimmune response may cause systemic complications in Crohn's disease.² In this patient an important nutritional deficit was seen not only as a result of enteral resorption but also due to a low food intake. On the other hand, a genetic defect of the immune system, probably related with monocyte defects, has been described in Crohn's disease.³ An inadequate autoimmune response, even in the absence of immunosuppressive treatment, made the possibility of infectious complications in our patient very high.

Few cases of Crohn's disease complicated with meningitis and epidural abscess have been described in literature, and the authors emphasise that the presence of fever, headache or lumbar pain in a patient with this disease should point towards the search of enteric fistulas with an epidural abscess and secondary meningitis.⁴⁻⁸

In our case, the clinical presentation differs from what is usually described, which is why there was a delay in the diagnosis. On admission, the absence of an immunosuppressant treatment and the initial sepsis situation, as well as the use of multiple antibiotic treatments and the absence of persistent fever during hospitalisation, led to not consider an infectious aetiology as the cause of the neurological clinical presentation. Added to this was the previous state of malnourishment that raised the possibility of a nutritional deficiency as the first option for her speech disorder. The antibiotic treatment that was started allowed for an apparent clinical improvement, with a development of a complex partial status epilepticus that coincided with the modification of the antibiotic treatment. The appearance of a new neurological clinical presentation was what led to the lumbar puncture and to the diagnosis of meningoencephalitis (probably of a bacterial origin that was aborted) 20 days after admission.

Learning points

- ▶ The presence of neurological signs and symptoms in a patient with Crohn's disease, in spite of the coexistence of nutritional problems, and of the absence of an immunosuppressant treatment, must lead to the suspicion of bacterial infectious complications.
- ▶ These bacterial infectious complications may be produced either by bacteraemias or by an invasion by proximity.
- ▶ The existence of meningoencephalitis and an epidural abscess associated to enteric abscesses or fistulas must be ruled out, in order to establish the appropriate treatment as early as possible, thus avoiding delays in the diagnosis and possible complications, as in the case described above.

Contributors MGD was involved in the conception and study design, acquisition of the data, and drafting of the manuscript. All the authors were involved in the critical revision of the manuscript for important intellectual content.

Competing interests None.

Patient consent Obtained.

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