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A VENTRICULOPERITONEAL SHUNT INFECTION AND SUBCUTANEOUS ABSCESS DUE TO *BRUCELLA ABORTUS*

BRUCELLA ABORTUS'A BAĞLI VENTRİKÜLOPERİTONEAL ŞANT İNFEKSİYONU VE SUBKUTANÖZ APSE

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Anahtar Sözcükler: *Brucella abortus,* ventrikülоperitoneal şant infeksiyonu, subkutanöz apse

SUMMARY

Infrequent involvement sites of brucellosis may cause a wide range of nonspecific symptoms. In this paper, a 60-year-old female case with nervous system, gastrointestinal tract and soft tissue involvement of brucellosis is presented. It is one of the rare cases in literature with ventriculoperitoneal shunt infection and the first case with subcutaneous abscess in the incision site due to brucellosis. Also it shows that brucellosis should be considered in the differential diagnosis for acute abdomen in endemic regions.

ÖZET

Bruselloz tuttuğu bölgeye bağlı olarak pekçok nonspesifik semptoma neden olabilir. Burada; brusellozun sinir sistemi, gastro-intestinal sistem ve yumuşak dokuyu tuttuğu 60 yaşındaki bir kadın hasta sunulmuştur. Literatürde bruselloza bağlı ventrikülоperitoneal şant infeksiyonu nadirdir ve insizyon bölgesinde subkutan apse ilk kez bildirilmektedir. Endemik bölgelerde akut karnın ayırıcı tanısında bruselloz da düşünülmelidir.

INTRODUCTION

Brucellosis is an endemic zoonosis in Turkey (1, 2). It is a systemic infection in which any organ or system of the body can be involved (2). The clinical diagnosis of the disease may be difficult because of varying presentations.

In this paper, a 60-year-old female farmer who had a ventriculoperitoneal (VP) shunt infection and subcutaneous abscess due to *Brucella abortus* is presented.

CASE

A 60-year-old woman was hospitalized with the diagnosis of subarachnoidal hemorrhage. On the seventh day of hospitalization, abdominal distention and tenderness developed so explorative laparotomy was planned. During the laparotomy an appendectomy and bridectomy was performed. Subsequently on the 22nd day of hospitalization she underwent an operation to correct the aneurysm. Three months after this operation hydrocephalus was diagnosed and a VP shunt was inserted. One year later the patient was re-admitted to the hospital having abdominal pain, nausea, abdominal tenderness and constipation. Bridectomy was performed during an emergency explorative laparotomy. On the tenth day after this operation, alteration of consciousness, suspected neck stiffness, nausea, vomiting, high fever and purulent drainage from the abdominal incision site developed. On physical examination, abdominal tenderness and muscular resistance were found. A

subcutaneous abscess was drained by laparotomy. A short Gram-negative rod was isolated by culture from this abscess, blood and the cerebrospinal fluid (CSF) taken from the end of VP shunt during the operation. The organism was catalase-, oxidase- and urease-positive and agglutinated with *B. abortus* antiserum (Difco Laboratories, USA). Standard tube agglutination test for Brucella sp. (STA) was positive at 1:320 dilution in serum. Cerebrospinal fluid (CSF) analysis taken by lumbar puncture revealed 100 cells/mm^3, predominantly lymphocytic in character, protein 30 mg/dl, glucose 48 mg/dl (blood glucose level: 143 mg/dl), but culture and STA were negative. Triple-therapy consisting of trimethoprim/sulfamethoxazole, doxycycline and rifampin was initiated for the subcutaneous abscess and VP shunt infection due to *B. abortus*. During the third week of the therapy, *B. abortus* was also isolated from the CSF taken from the shunt reservoir. The patient was discharged because of her desire, and the authors were then informed that she had died three weeks later.

DISCUSSION

Nervous system complications of brucellosis include meningitis, encephalitis, myelitis-radiculoneuronitis, brain abscess, epidural abscess, demyeliting syndromes and meningovascular syndromes (2, 3). VP shunt infections due to brucellosis have been rarely reported in the literature. Bouza et al. (4) reported a case of neurobrucellosis in which a 17-year-old woman with hydrocephalus had VP shunt inserted. Anderson and Mortensen (5) reported a case of a Turkish woman who had hydrocephalus and on insertion of a VP shunt developed B. melitensis peritonitis due to undiagnosed neurobrucellosis. Locutura et al. (6) reported a case of an urban-dwelling Spanish patient who, following implatation of a VP shunt, developed ascites caused by *B. mellitensis* without concomitant meningeal involvement. Chowdhary and Twum-Danso (7) described a patient who developed *Brucella* meningoencephalitis at the age of 20 months while he had a VP shunt *in situ* for treatment of hydrocephalus. Drutz (8) reported a brucellosis case of the central nervous system in which an eight months old baby had ventriculoatrial shunt because of hydrocephalus; at the ventricular fluid and shunt apparatus cultures grew *B. melitensis*. In this case; *B. abortus* had caused a VP shunt infection with obscure symptoms of nervous system. As *B. abortus* was isolated from CSF from the end of the shunt but not CSF from the lumbar puncture, it was concluded that the source of this VP shunt infection was the subcutaneous abscess.

Involvement of the soft tissue in cases of brucellosis is infrequent. Potasman et al. (9) described a case which has soft-tissue abscess with bone involvement due to *B. melitensis*. Here the first case in the literature is presented in which a subcutaneous abscess occurred in the incision site due to *B. abortus*.

Symptoms of gastrointestinal tract of brucellosis include anorexia, abdominal pain, nausea, vomiting, diarrhea, or constipation (2). Al Faraj (10) described two cases of serologically diagnosed brucellosis, both presenting initially with acute abdomen and fever. In the presented case it probably imitated an acute abdomen by exhibiting gastrointestinal symptoms like nausea, abdominal pain, constipation and explorative laparotomy was done. Considering *Brucella* infection in the differential diagnosis of acute abdomen may prevent unnecessary laparotomy in endemic regions.

The diagnosis of brucellosis may be difficult due to the diversity of symptoms. Diagnosis should be based on either a positive culture for *Brucella* or a fourfold rise in titer of antibody to *Brucella* (2, 9). Here the diagnosis was made at these rarely seen infection sites from the abscess and the CSF from the VP shunt by the isolation of *B. abortus*.

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