

## Case Report

**Abscess due to textiloma (gossypiboma: Retained surgical cottonoid)**Ali Akhaddar, Hassan Baallal, Abderrahim Elktaibi<sup>1</sup>Departments of Neurosurgery and <sup>1</sup>Histopathology, Avicenne Military Hospital of Marrakech, Mohammed V University in Rabat, Rabat, MoroccoE-mail: \*Ali Akhaddar – [akhaddar@hotmail.fr](mailto:akhaddar@hotmail.fr); Hassan Baallal – [baallalnh@gmail.com](mailto:baallalnh@gmail.com); Abderrahim Elktaibi – [ab.elktaibi@gmail.com](mailto:ab.elktaibi@gmail.com)

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**Abstract**

**Background:** Surgical site infections following spinal surgery, including spinal abscesses, are rare but serious as they are major causes of morbidity, and even mortality. They are, however, rarely attributed to infected, retained surgical cottonoids or sponges (textiloma or gossypiboma) inadvertently left in an operative field.

**Case Description:** A 53-year-old female with a history of two prior spinal operations at the L4-S1 levels (11 and 2 years previously) presented over a few weeks with the acute onset of a cauda equina syndrome (e.g., paraparesis and acute urinary incontinence). The patient demonstrated a mildly elevated white blood cell count (12,600/mm<sup>3</sup>) and abnormally increased C-reactive protein level that correlated with the magnetic resonance imaging that showed a dorsal epidural abscess extending from the L4 to S1 levels. At surgery, an encapsulated posterior epidural abscess was drained. Surgical findings included a granulomatous lesion consistent with a retained surgical cottonoid and was removed from the antero-inferior portion of the abscess wall at S1. Culture of the thick fibrotic abscess wall grew *Klebsiella oxytoca*. After 2 months of ciprofloxacin, the patient's infection cleared but the motor deficit only partially resolved.

**Conclusion:** Most spinal textilomas (gossypibomas) are aseptic and are found in paraspinal areas without neurological symptoms or sequelae. These lesions may remain silent for years and may only rarely cause neurologic or infectious symptoms/signs. Notably, textilomas following spinal surgery may be largely avoided if proper cottonoid and sponge counts are done prior to closing spinal wounds.

**Key Words:** Cauda equina syndrome, gossypiboma, retained cottonoid, spinal epidural abscess, surgical complication, surgical site infection, textiloma

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**Quick Response Code:****INTRODUCTION**

Surgical site infections (SSIs) following spinal surgery are rare but serious as they are major causes of morbidity, and even mortality.<sup>[2]</sup> Among spinal SSI, spinal epidural abscesses represent a well-known postoperative complication, especially in the presence of infected spinal instrumentation.<sup>[3,4,7]</sup> However, spinal epidural abscesses are rarely attributed to infected,

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retained surgical sponges (textiloma or gossypiboma) that have inadvertently been left behind in an operative field.<sup>[6]</sup> Here, we present a case of a 53-year-old female, who previously had two posterior lumbar spinal procedures at an outside hospital consisting of an L5-S1 discectomy 11 years ago and an L4-L5 laminectomy 2 years ago. She presented with an acute epidural spinal abscess L4-S1 attributed to a magnetic resonance imaging (MRI) and surgically documented textiloma/gossypiboma (infected retained sponge).

## CASE PRESENTATION

A 53-year-old female with a long history of low back pain had undergone two prior operations: an L5-S1 discectomy (11 years ago) and an L4-L5 decompressive laminectomy (2 years ago). Over several weeks duration, she presented with an acute cauda equina syndrome characterized by paraparesis and acute urinary incontinence. On examination, she had mild tenderness over the lower back region. Laboratory tests revealed mild elevation of the white blood cell count (12,600/mm<sup>3</sup>), a high C-reactive protein level, and no urinary tract infection. Plain X-rays showed the various laminectomy defects (L4 to L5) due to her prior surgery. The MRI showed an oblong posterior epidural lesion compressing the thecal sac from the L4 to S1 levels; it was hypointense on T1 and hyperintense on T2-weighted images, which demonstrated ring enhancement with gadolinium injection [Figure 1]. As an epidural abscess was suspected, she underwent a decompressive laminectomy. At surgery, there was an encapsulated posterior epidural abscess that required drainage [Figure 2a]. There was also a granulomatous lesion (unsuspected surgical cottonoid) noted at the antero-inferior part of the abscess wall (at the level of S1); it was completely removed along with marginal thick fibrotic capsular tissue [Figure 2b]. Culture of the capsule revealed *Klebsiella oxytoca* requiring 2 months of ciprofloxacin. The infection fully resolved, but the patient's paraparesis only partially recovered.

### Histology

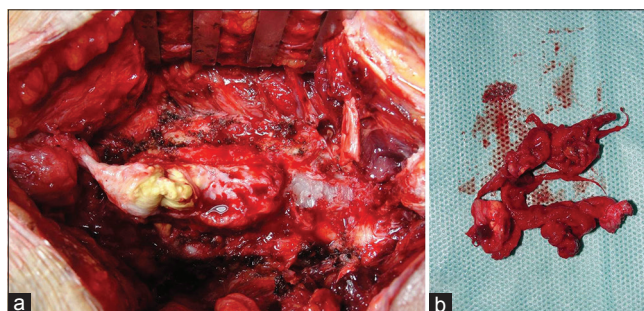
The histopathological examination confirmed a textiloma; there was chronic inflammation and fibrosis surrounding the retained cottonoid [Figure 3]. After the first postoperative year, there was no evidence of infection recurrence.

## DISCUSSION

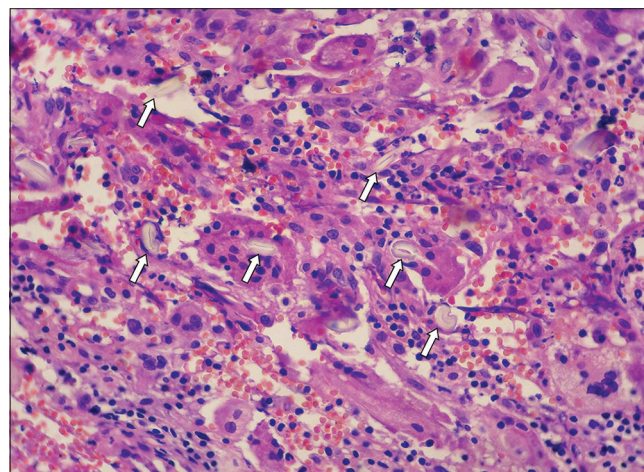
In this case, the spinal epidural abscess occurred 2 years after the last surgical procedure, and the patient presented with an acute cauda equina syndrome with urinary incontinence. Following a laminectomy to decompress a spinal abscess L4-S1 and resection of the retained infected cottonoid (textiloma), the infection



**Figure 1:** Lumbar MRI scans showing a posterior epidural abscess. (a) Sagittal T1-weighted post-gadolinium MRI showing a hypointense lesion with ring enhancement. (b) Sagittal T2-weighted MRI showing a hyperintense lesion. (c) Axial T1-weighted post-gadolinium MRI showing the lesion compressing the thecal sac and cauda equina.



**Figure 2:** Operative view demonstrating an encapsulated epidural collection with purulent material inside (a). Appearance of the abscess wall adhering to a filamentous foreign body (textiloma) (b).



**Figure 3:** Hematoxylin-eosin-stained tissue showing histopathologic features of the granulomatous lesion that contain polynuclear and multinucleated giant cells around cut fibers (arrows) (Medium power magnification)

fully resolved with 2 months of antibiotic therapy, but the paraparesis only partially resolved.

### Review of textilomas

Most spinal textilomas (gossypibomas) are aseptic and are found in paraspinal areas without neurological symptoms.<sup>[1,5]</sup> Textilomas can remain silent for many years unless they cause neurologic or infectious complications.

Sometimes, the retained surgical foreign body can be found incidentally during a routine radiologic procedure. Prevention of textiloma may be achieved by carefully counting number of surgical cottonoids and sponges used intraoperatively, prior to wound closure.<sup>[1]</sup>

### **Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

### **Conflicts of interest**

There are no conflicts of interest.

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