A 13-year-old textiloma (gossypiboma) after discectomy for lumbar disc herniation: a case report and review of the literature

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Abstract

BACKGROUND CONTEXT: A paraspinous retained surgical sponge (textiloma) is rare and mostly asymptomatic in chronic cases but can be confused with other soft-tissue masses. Therefore, it is important to be aware of patients with a paraspinous soft-tissue mass with unusual or atypical symptoms.

PURPOSE: A patient with asymptomatic chronic paraspinous textiloma who was operated on 13 years ago for lumbar disc herniation is presented.

STUDY DESIGN: Case report.

METHODS: A patient presented with complaints of back pain radiating to leg and neurogenic claudication. Computed tomography imaging revealed canal stenosis at L3–L5 levels and a soft-tissue mass at the paraspinous muscles of the L5–S1 level.

RESULTS: Surgical treatment was performed for both to excise or obtain biopsy from the soft-tissue mass and to treat spinal stenosis. During the operation, a retained surgical sponge was found and excised completely with fibrous capsule surrounding it and decompression and posterior spinal instrumentation performed without fusion for spinal stenosis with dynamic pedicle screws (Cosmic Pedicle Screw System; Ulrich AG, Germany). Recovery was uneventful, and the patient’s stenosis symptoms were resolved soon after surgery.

CONCLUSION: Retained surgical sponges do not show mostly any specific clinical and radiological signs. They should be included in differential diagnoses of soft-tissue masses at the paraspinous region with a history of a previous spinal operation. © 2007 Elsevier Inc. All rights reserved.

Keywords:
Textiloma; Gossypiboma; Retained fabric foreign body

Introduction

The terms of textiloma, retained fabric foreign body, gossypiboma, or cottonoids are used to define the retained surgical sponges and the surrounding foreign-body reaction [1–7]. They can frequently occur after abdominal and thoracic surgeries [1–10]. They are rarely located in extremities and in other parts of the body [11–14]. Depending on their location, they may cause severe complications or remain silent for years [8,15].

In this study, we aimed to present a case of asymptomatic retained surgical sponge in a patient operated on for lumbar disc herniation 13 years ago. As far as we know, in the literature this was the longest time reported for a paraspinous retained surgical sponge remaining in the operation site asymptotically.

Case report

A 78-year-old female patient was referred with the complaints of back pain radiating to the right leg and knee and neurogenic claudication; she underwent an operation for L3–L4 and L5–S1 lumbar disc herniation 13 years ago. Upon physical examination, her right quadriceps muscle strength was found to be 3/5, and hypoesthesia was detected in the lateral thigh. The findings of laboratory
examinations were unremarkable, with a normal cell count and normal biochemistry. Conventional radiography showed laminectomy defects on L3–L5 vertebrae and disc space narrowings.

Computed tomography (CT) imaging revealed right laminectomy defects on L3 and L5 laminae because of her previous operation, disc herniation together with vacuum phenomena at the L3–L4 levels, absolute canal stenosis at the L4–L5 levels, and a soft-tissue mass with a size of 3×5 cm lying on the right side in the posterior paraspinal muscles causing erosion on the spinous process of L5 vertebra (Fig. 1). Because the mass was thought to be a soft-tissue tumor, magnetic resonance imaging was performed; spin-echo T1-weighted and fast spin-echo T2-weighted images revealed a well-circumscribed 3×5 cm soft-tissue mass in the right side of the posterior paraspinal muscles of L5–S1 vertebrae, L3–L4 recurrent disc herniation, and absolute canal stenosis at L4–L5 levels. The internal structure of which was more homogenous on T1W1 and heterogeneous at T2W1 (Figs. 2A–C). In light of the imaging findings, presurgical differential diagnosis was a fibrous, neurogenic, or sarcomatous soft-tissue tumor and L3–L5 lumbar spinal stenosis.

The patient was operated on both to excise or obtain biopsy from the mass or the potential benign soft-tissue tumor and to treat spinal stenosis. The operation revealed that the encapsulated mass was in fact a gauze sponge folded on itself with a granulation tissue on it. During the operation, the retained gauze sponge completely excised with fibrous capsule surrounding it, and decompression and posterior instrumentation surgery was performed without fusion at L3–L5 levels for spinal stenosis with dynamic pedicle screws (Cosmic Pedicle Screw System; Ulrich AG, Germany). Histological investigation showed a fibrous capsule containing neutrophils, plasma cells, giant cell infiltration, and lymphocytes, and these signs were considered as a foreign-body reaction secondary to the surgical sponge (Fig. 3). The patient was discharged 7 days later, and her recovery was uneventful.

**Discussion**

A retained surgical sponge is not a common postoperative complication. It is frequently located in cavities but...
can also occur after extremity surgery and neurosurgical operations [11–13]. It can cause severe complications according to its location. These complications include abscess formation, chronic-infected sinus tracts, adjacent bone erosion, vascular erosion, and intestinal obstruction [5,16,17].

Olnick et al. [18] has subclassified textilomas into acute necrotic forms and chronic forms. The acute form, in which exudative reaction dominates the clinical picture and abscess formation and skin fistulas are observed, is symptomatic in the early postoperative period. In chronic form, encapsulated aseptic foreign body granuloma is observed. The chronic form may be asymptomatic or may show nonspecific subjective symptoms. In our subject, the chronic form of textiloma was identified. The patient was referred to us with symptoms of spinal stenosis 13 years after the primary operation, and textiloma was discovered incidentally.

Today, sponges containing radiopaque barium sulfate markers and inert plastic materials are used in operations, although, in our case, the examination of plain films revealed no such markers. In former cases, conventional radiography may be of no help for detection of the retained sponges because these markers were not used or may be degraded [1,2]. Radiologically, a whirl-like pattern with or without radiopaque markers is a characteristic feature of retained sponges.

For evaluation of textiloma, a CT scan is the imaging technique of choice. The signs in CT investigation vary according to the reaction formed. The most characteristic sign is the spongiform pattern formed by gas bubbles [3,4,8]. This characteristic sign may not be observed in further periods because of the absorption of gas bubbles [10]. The other sign in CT investigation is the low-density mass with a high-density fine capsule containing the contrast agent [4–6,9]. In our case, we only observed a low-density mass and a high-density capsule but no gas bubbles.

In magnetic resonance imaging, heterogeneous structure with a low-signal intensity wavy pattern at T1W1 and a high-signal intensity at T2W1 and both high- and low-signal intensity at T1W1 and T2W1 have been reported [17]. In our case, low-signal intensity at T1W1 and both high- and low-signal intensity at T2W1 observed.

The morphology encountered in our case indicated that differential diagnosis should include hematoma; abscess formation; schwannoma; fibromatosis (desmoid tumors); malign fibrous histiocytoma; and other soft-tissue tumors such as fibrosarcoma, rhabdomyosarcoma, and leiomyosarcoma [12–14]. Hematoma is seen in the early postoperative period and shows resorption in the following examination. CT findings of an abscess are as a mass of fluid density and have a well-defined enhancing wall. Gas within it produces an air-fluid level rather than spongiform pattern characteristic of textiloma. However, abscess formation can occur as a complication of textiloma formation. At magnetic resonance imaging, schwannomas show low-signal intensity at T1W1 and high-signal intensity at T2W2. Desmoid tumors often show poor margination and possible neurovascular and bone involvement. For other soft-tissue tumors and sarcomatous tumors, magnetic resonance imaging is nonspecific.

In most cases, patients’ complaints cease completely after surgical extirpation of textiloma. In our study, it remained asymptomatic in the postoperative period and the patient presented with a complaint of spinal stenosis.

In conclusion, textilomas with extracavity locations are uncommon, mostly asymptomatic, and hard to diagnose. Particularly chronic cases do not show specific clinical and radiological signs for differential diagnosis. Textiloma should be included in differential diagnosis of soft-tissue masses detected in patients with a history of a prior operation. Patient-clinician and clinician-radiologist interactions and compliance enhance the possibility of accurate diagnosis.

References