Textiloma as a complication of transsphenoidal surgery

Cheng-Ta Hsieh, MD, Tzu-Tsao Chung, MD, Yu-Hao Chen, MD, Yao-Feng Li, MD, Ming-Ying Liu, MD

Textiloma as known as gossypiboma, muslinoma, or gauzoma, is used to describe the inflammatory pseudotumor resulting from a foreign body such as unabsorbable cotton left behind during surgery. Textiloma is a well-known complication and mostly reported in abdominal and orthopedic surgical procedures. However, with an increase of transsphenoidal procedures, textiloma has not been described as a complication in the literature. Here, we report a case of textiloma following transsphenoidal surgery and review the relevant literature.

Case Report. A 63-year-old female presented with a 3-year complaint of blurred vision and progressive headache in January 2009. Neurological examinations revealed a typical figure of bitemporal hemianopsia. The MR images of the brain revealed a sellar tumor measuring 1.4 x 1.6 x 2.1 cm with a cystic component, compressing the optic chiasm (Figure 1). Pituitary adenoma with apoplexy was considered, and she underwent transsphenoidal surgery in February 2009. Massive bleeding occurred and hemostatic materials including cotton were used to control the bleeding. The surgery lasted approximately 6 hours. The previous neurological deficits gradually improved after surgery. However, intermittent headaches persisted for half a year after surgery. A CT scan of the brain revealed a residual enhancing nodular lesion measuring 2.4 cm in diameter located in the posterior portion of the sellar fossa. At her second admission, no fever was observed. The laboratory examinations disclosed a white cell count of 7000/mm³. The subsequent MR images of the brain revealed a mass, which appeared as hypointense on T1-weighted and hyperintense on T2-weighted MR images. The T1-weighted MR images with contrast medium showed an enhanced hyperintense rim around the hypointense center (Figure 2). With the MRI results, she underwent transcranial surgery to remove the residual lesion. At surgery, one

ABSTRACT

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Textiloma as known as gossypiboma, muslinoma, or gauzoma, is used to describe the inflammatory pseudotumor resulting from a foreign body such as unabsorbable cotton left behind during surgery. Textiloma is a well-known complication and mostly reported in abdominal and orthopedic surgical procedures. However, with an increase of transsphenoidal procedures, textiloma has not been described as a complication in the literature. Here, we report a case of textiloma following transsphenoidal surgery and review the relevant literature. Our objective in presenting this particular case is to highlight the presentation and possible cause of textiloma following transsphenoidal surgery.

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well-capsulated mass located in the sellar fossa was found, which was compressing the optic chiasm. While opening the tumor capsule, retained cotton material was seen within the capsule. Pathological examinations of the material revealed an inflammatory reaction consisting of histocytes and multi-nucleated giant cells surrounding the cotton material, which confirmed the diagnosis of foreign body textiloma (Figure 3). She was discharged on the seventh postoperative day. No recurrent or febrile symptoms were noted. A subsequent MRI revealed a residual capsule attaching to the optic chiasm (Figure 4).

**Discussion.** Various forms of cotton plegets and muslin are commonly used to control bleeding during operation. Some cotton may be left behind in the surgical site inadvertently or deliberately, which induces an inflammatory reaction, forming a textiloma. Although the textiloma is a well-known complication mostly occurring in abdominal and orthopedic surgery, it is rarely described in the neurosurgical field. In the literature, the incidence of intracranial textiloma is highest following surgeries for wrapping intracranial aneurysms, which cannot be managed with a clipping method, followed by surgeries for intracranial meningiomas, especially the falcine meningiomas. More recently, with the increasing transsphenoidal procedures for sellar and anterior fossa lesions, several complications such as epistaxis, sinusitis, cerebrospinal fluid leakage, meningitis, subarachnoid hemorrhage, and cranial nerve palsy are well-documented. As the textiloma results from the accidental retention of cotton-based materials during surgeries, the time of its presentation immediately varies from postoperatively to several decades after initial surgery. However, most radiological abnormalities of textiloma are detected in the first 6 months due to the standard practice of following up with MR images to monitor residual lesion, or to detect recurrence. Otherwise, the maximal time of acute inflammatory reaction is the other possible reason to identify a textiloma within 6 months after initial surgery. Textiloma as a foreign body can induce the inflammatory reaction, many diseases associated with inflammatory reactions such as recurrent tumors, radiation necrosis, abscess or resolving infarct or hematoma should be considered as
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However, due to the characteristic features of cotton, plain radiographs, CT scan, or sonogram are less diagnostic. Magnetic resonance images have been thought to be the best diagnostic modality for textiloma. Due to the aseptic fibrous tissue reaction involving adhesion formation, encapsulation, and granulomatous formations, the appearance of textiloma is characterized as hypointense on T1-weighted and hyperintense on T2-weighted MR images. The T1-weighted MR images with contrast medium show an enhanced hyperintense around the hypointense center. A “folded fabric appearance” within the cystic mass on T2-weighted MR images has been suggested as a specific feature for textiloma. In the management of textiloma, a secondary operation is considered to ascertain the diagnosis and to remove the foreign body. However, the retained hemostatic agents should be removed during every operation to prevent this complication, which may result in legal problems.

In conclusion, textiloma induced by retained cotton is rarely reported as a complication of transsphenoidal procedures for pituitary tumor, and should be considered as a differential diagnosis of recurrent tumor, tumor progression, or postoperative abscess.

References


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