Supra-aural gossypiboma: case report of a retained textile surgical sponge in an unusual location

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ABSTRACT

Gossypiboma or retained surgical sponge is an infrequently encountered surgical complication, more so in the head and neck region. A literature search did not reveal a previously reported case of retained or concealed surgical sponge after microscopic ear surgery. We present a unique and previously unreported case of a 25-year-old male who presented with a cystic swelling in the right supra-aural region 5 months post-modified radical mastoidectomy of the right ear. Surgical excision of the swelling revealed a retained surgical sponge. We emphasise the importance of counting surgical sponges after every surgical step to minimise the incidence of such retained surgical items.

KEYWORDS

Gossypiboma – Supra-aural – Surgical sponge – Retained surgical item

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Introduction

Reports are available worldwide of surgical instruments, needles, clamps, sponges, gloves and various other 'retained surgical items' left accidentally by surgeons in the patient's body. A literature search revealed that the most common retained instrument is a retained textile surgical sponge. Various terms have been used for a retained textile surgical sponge, such as textiloma, cottonoid, cottonbolloma, muslimoma and gauzeoma, but the most widely accepted term has been gossypiboma, derived from the Latin *gossypium* (cotton) and the Kiswahili *boma* (place of concealment).¹

Gossypibomas following head and neck surgeries are rarely reported. We present here a case of gossypiboma in the right supra-aural region. No previous reporting of gossypiboma following microscopic ear surgery and the unusual location of supra-aural area are the two aspects that make our case report unique.

Case report

A 25-year-old male patient reported to our ear nose and throat (ENT) outpatient department with a 2 month history of swelling and pain in the right supra-aural region. The patient had a past history of right-ear discharge, with decreased hearing for the past 10 years. He was diagnosed with chronic suppurative otitis media (atticoantral disease) and had undergone right modified radical mastoidectomy

(MRM) 5 months ago elsewhere. On physical examination, a 3 cm × 2 cm swelling was seen in the right supra-aural region. On palpation, the swelling was cystic to firm, non-tender and overlying skin was normal. A postaural scar from the MRM surgery was present. Otoscopic examination revealed a wide meatoplasty and a healed mastoid cavity in the right ear. Rest ENT examination was within normal limits. Fine-needle aspiration cytology of the swelling was advised, which reported an infected epidermal inclusion cyst. All other laboratory examinations were unremarkable. Owing to the poor socio-economic condition of the patient, radiological investigation was not advised. Surgical excision of the inclusion cyst under local anaesthesia was planned.

The surgery was uneventful and an encapsulated mass was excised en-bloc from the supra-aural region. The wound was closed in layers and dressed. On cutting open the encapsulated mass, a surgical gauze sponge was found, which was a completely unexpected finding (Figs 1 and 2). The patient's postoperative recovery was smooth and uneventful.

Discussion

Surgical sponges are made of cotton, an inert material that does not stimulate any specific biochemical reaction except adhesion and granuloma formation.² Since symptoms of gossypiboma are usually nonspecific and the condition may appear years after surgery, a high degree of suspicion is one of the keys to establishing a diagnosis preoperatively. In the

Figure 1 Operative photograph shows a well-encapsulated mass approximately 4 cm at its greatest diameter, encasing a cotton gauze

Figure 2 A closer look at the cut section shows cotton threads adherent to the walls of the cystic mass

United States, surgical gauze is manufactured with radio-opaque threads that are easily identified on radiographs, but this is not the case in other countries such as India.

The actual incidence of surgical sponge retained at operation is difficult to estimate; however, the following rates have been reported. Gawande *et al* reported an incidence of gossypiboma of 1 in 100–3000 for all surgical

interventions and 1 in 1000–1500 for intra-abdominal operations.⁵ Overall, the incidence has been reported to be 1 in every 3000 procedures.⁴ Intra-abdominal or intrathoracic gossypiboma are relatively more common, but gossypiboma in the supra-aural region has never been reported, to the best of our knowledge.

Surgical sponges are not commonly counted in routine microscopic ear surgeries such as myringoplasty, tympanoplasty or mastoid bone surgeries, as cotton gauze sponges have a very limited role in the surgery. The only step in these procedures where the use of a surgical sponge can be expected is the graft-harvesting step from the temporalis fascia. Infrequently, temporalis fascia graft harvesting may result in trauma to the underlying temporalis muscle, resulting in diffuse bleeding from the region. To counter such a condition, surgeons sometime apply pressure by placing a surgical sponge over the temporalis muscle and then proceed to complete the rest of the surgery. By the time that the surgery is complete, haemostasis is usually achieved and the gauze is removed at the time of closure of the surgical wound. We believe that, in our patient, the gauze must have slipped deeper into the space and thus remained concealed. This seems to be the most logical explanation for a gossypiboma in such an unusual location.

The differential diagnoses discussed during clinical evaluation of the patient were sebaceous cyst, hematoma and sterile abscess. Sebaceous cyst was considered because of the location and the cystic feel of the swelling. Hematoma and sterile abscess were suspected because of the history of surgery near the same site. We did not suspect a gossypiboma, as there would not be a high index of suspicion for a retained surgical item in this location.

As suggested by Abu-Ella Amr in 2009,⁵ counting of surgical sponges at the start and end of the surgical procedure is not sufficient on its own. It is advised that the operating surgeon should achieve complete haemostasis before proceeding to the next surgical step. The surgeon should not leave a surgical sponge at a bleeding site for pressure haemostasis and continue operating on another site, as this may lead to a concealed surgical sponge and resultant gossypiboma.

We support the practice of reconfirming the number of surgical sponges with the assisting nurse intermittently and also before wound closure. Manual counting and recounting of surgical sponges is the only modality currently available in developing nations such as India, and it can never be overemphasised in this era of medical litigations.

In addition, the prevention of retained surgical items will require behavioural changes, a change in surgical practices, an ergonomic operating room environment and shared information between all operating-room personnel.

Conclusion

Despite stringent policies and surgical room protocols, gossypiboma continues to occur worldwide and, at the same time, remains underreported. Gossypiboma should be considered in the differential diagnosis of swellings at or near the surgical site in postoperative patients.

References

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