CASE REPORT

Failure to Heal of Thyroidectomy Wound Due to Gossypiboma and Stitch Sinus: Report of Two Cases

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ABSTRACT

This case series presents two females, 53 and 33 years old, with thyroidectomy wounds that failed to heal, 16 and 18 weeks, respectively, following the operation. The wounds were explored with removal of gauze and catgut suture. The patients made remarkable improvement and the wounds healed satisfactorily within seven days. Surgical materials forgotten intraoperatively, wrong use of and / or infected surgical materials should be considered when surgical wounds fail to heal.

Key words: Gossypiboma, healing, thyroidectomy, wound

INTRODUCTION

During surgical procedures precautionary measures are always taken to avoid or minimize complications.[1] Despite these, complications can still occur. These may arise as a result of the type of suture used, due to its physical and natural properties,[2,3] as well as breach in the sterile procedure. Furthermore, iatrogenic operative complications do occur when surgical materials like gauze, sponges, or surgical instruments are forgotten intraoperation — leading to various complications, such as failure of the wound to heal, sinus formation, fistulations, and abscesses.[4]

Literature is very sparse on this because most are not reported for medicolegal implications.[5] The aim of this article is to report two cases of failure of thyroidectomy wounds to heal, one as a result of 'gauzoma' (gossypiboma), and the other, a combination of gossypiboma and suture abscess, leading to a stitch sinus.

CASE REPORTS

Case 1

A 53-year-old civil servant was presented with a discharging wound that had failed to heal two-and-a-half months post thyroidectomy for a simple colloid goiter. The wound started discharging thick creamy pus postoperatively on the fifth day and this warranted wound exploration five weeks after the initial operation, in the same hospital. Despite surgical exploration and other therapeutic measures, the wound still failed to heal, and as the discharge persisted for another six weeks she was referred to our facility.

The essential findings on physical examination, at presentation in our hospital, revealed a middle-age woman, who was acutely ill-looking, febrile (Temperature 38.5°C), anicteric, and not dehydrated. There was a thyroidectomy scar with a fistula formation in the 2 cm mid-portion, discharging pus. The surrounding skin was inflamed and indurated with some degree of swelling in the lower flap of the wound. The other systems were essentially normal. An impression was formed of stitch sinus with residual abscess, keeping in view retained surgical object post thyroidectomy.

A repeat microscopy, culture, and sensitivity of the discharge in our hospital yielded atypical coliforms, sensitive to levofloxacin and Augmentin. There was no clinical or laboratory evidence of immunosuppressive illness in the patient. She was placed on two antimicrobial agents and she improved significantly within one week of admission. She subsequently had wound re-exploration, with the finding at operation revealing a strip of gauze (gauzoma) well tucked (encapsulated) into the lower flap, with some strands extruding into the subcutaneous layer [Figure 1]. The histology of biopsy of the cavity was consistent with chronic granuloma formation.

Access this article online

Quick Response Code:

Website: www.jstcr.org

DOI: 10.4103/2006-8808.100349

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Case 2

A 33-year-old civil servant developed a wound infection on the fourth day post thyroidectomy performed in a private hospital for a simple multinodular goiter. Culture of the discharge from the wound yielded heavy growth of *Staphylococcus aureus,* which was sensitive to chloramphenicol and erythromycin. The wound, however, failed to heal, and there was recurrent discharge 10 weeks after surgery, despite antimicrobial treatment. A wound exploration and drainage of abscess was performed a week later. A repeat microscopy, culture, and sensitivity yielded *Pseudomonas aeruginosa*, which was sensitive to floxacillin and gentamycin. There was some degree of success as the wound started healing with exuberant granulation tissue, although the discharge persisted for another eight weeks until a stitch sinus eventually developed.

She was referred to our institution on account of persistent wound discharge. At presentation she was found to be clinically stable, with a discharging sinus over the surgical scar. There was no clinical or laboratory evidence of immunosuppressive illness in the patient.

The wound was re-explored in our hospital four weeks after presentation. A deep-seated abscess, with some free chromic catgut sutures were encountered extruding from encapsulated surgical gauze left on the right side [Figure 2]. The wound was copiously irrigated with saline and the wound closed primarily. She did well postoperatively and was discharged after 10 days of admission, without any residual problem. She has been followed up in the clinic for six months and has remained stable since.

DISCUSSION

Thyroidectomy is considered a clean operation, but when the wound fails to heal in the expected period of time, especially with purulent discharge or abscess formation, pyogenic infection is often primarily implicated. Usually the discharge from the wound is cultured and appropriate antimicrobials are used. However, when the wound still fails to heal, retained surgical material or infected suture material (due to poor surgical technique or nature of suturing material used) are often ignored because of the medicolegal implication.[1] For the same reason, these are not often published.[5,6]

Although, gauze and sponges are usually used to achieve hemostasis, as well as in dissection, during surgery, they are still forgotten intraoperation, despite measures taken to avoid this.[7] This also applies to other surgical materials and equipments like gelfoam, surgicel, artery forceps, and so on.[8]

There are quite a few causes for operative loss of gauze, sponges, and surgical instruments.[9] Notable among these are serious emergency procedures that might not allow initial sponge count, severe hemorrhagic procedures, time consuming operations, and no sponge counting while closing. Others include, the nature of surgical materials like cotton pads that might break into pieces, lack of tags on the sponges, towels and gauze, inaccessible operation sites, poor surgical techniques, change of theater personnel, as well as lack of good rapport and understanding among the operating team (assistant nurses, anesthetists, surgeons).[10]

The course of events, when they occur, are extrusion, elicitation of an exudative reaction leading to abscess, cellulitis, septic syndrome, or remaining inert with encapsulation and formation of a lot of adhesions.[11] In our patients, severe cellulitis with abscess formation and copious pus discharge were elicited, as previously documented.[12] An attempt at extrusion into the outside also occurred, as some of the chromic catgut used was seen

Figure 1: Extraction of the gauze in case 1

Figure 2: Shows the extracted gauze in case 2

projecting into the wound surface and some strands of the cotton gauze (gauzoma) were detected in the subcutaneous layer of the wound of the first patient.

The radiological features of gossypiboma, textilioma, as well as others, are well known, including the use of ultrasonography and magnetic resonance imaging (MRI).[13] The first patient started discharging pus on the fifth day, while the second started discharging pus on the fourth day post the operation (both were accompanied with classical clinical features of acute pyogenic infection). We believed that the 'explorations' that were done from the referring hospitals were just laying open the skin down to the platysma level, as the wounds continued to discharge despite the 'explorations'. The wounds were thoroughly explored under general anesthesia in our hospital. These eventually yielded the forgotten gauze in the first patient, [Figure 1]. In the second patient the chromic catgut used was trying to extrude, while a gauze was found on the right side, fully encapsulated [Figure 2].

Suture materials are known to cause adverse effect on tissues and increase susceptibility to infection.[14] The types of suture material used and the surgical technique also play some role in wound infection. This is further encouraged by the presence of devascularized tissue and hematoma dead space from tissue damage.[15] The severity of infection elicited, depends on the physical and chemical configuration of the sutures.[16] Bacteria are known to adsorb into the strands of multifilament sutures such as silk and catgut (especially plain catgut), hence, these should be taken into consideration when planning surgical procedures.

CONCLUSION

In conclusion, gossypiboma should be given a high index of suspicion in the presence of a persistently discharging wound post operation, post-thyroidectomy wound inclusive. The routine gauze and instrument count prior to and after surgical procedure cannot be over-emphasized.

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How to cite this article: Musa AA, Banjo A, Agboola O, Osinupebi O. Failure to heal of thyroidectomy wound due to gossypiboma and stitch sinus: Report of two cases. J Surg Tech Case Report 2012;4:24-6.

Source of Support: Nil, **Conflict of Interest:** None declared.