

Abstract

31 Gossypiboma is defined as a retained cotton matrix surgical material in
32 the body after an operation. Although uncommon, surgical gauze or
34 sponge constitute the most frequently encountered foreign bodies,
35 because of their common usage, small size and amorphous structure.
36 The authors report a case of a 32-year-old woman who sought medical
37 attention, complaining of supra pubic and low back pain accompanied
38 by a vaginal discharge. She had a past medical history of an exploratory
39 laparotomy, 12 years ago. Intraoperative findings included numerous
40 adhesions and encapsulated surgical gauze. Outcome was favorable.
41 The authors suggest that the policy of prevention is far more
42 reasonable than the cure. Several known measures added to recent
43 technological devices will help to reduce the incidence of
Gossypibomas.

KEY WORDS: GOSSYPIBOMA, SPONGES-COUNT, PREVENTION, Surgical
Sponges, Laparotomy, Foreign Bodies

44 Introduction

45 Gossypibona, an iatrogenic but avoidable surgical complication,

Comment [h1]: Does not take part of MESH
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Comment [h3]: Mesh recommends Prevention
and Control

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46 refers to a retained cotton matrix surgical material after a surgery.

Comment [F4]: Gossypiboma definition comprehends more than surgical sponge.

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47 Incidence of gossypiboma ranges between one per 100 and 3000

Comment [F5]: Campos FPFC et al An Iron deficiency anemia of Unknown cause: A case report involving Gossypiboma. Clinics 2010;65(5):555-8

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48. operations.¹ It leads to considerable morbidity and at times even

49. mortality. It may be associated with a bowel perforation and or

50 penetration by the foreign body, which can be diagnosed

51 preoperatively by a CT scan². The author report the case of a

52 Gossypiboma as a cause of unresolved postsurgical pain.

53 It is emphasized the policy of prevention as being far more important

54 than cure.

55 Case Report

56 A 32-year-old woman first presented with one-week-history of

57 suprapubic and low back pain associated with whitish vaginal

58 discharge. She underwent an exploratory laparotomy for left sided

59 adnexal mass performed at another medical facility in 2000.

60 Vital signs were normal. Colposcopic examination reveals a caseous

61 cervical discharge and the pelvic bimanual palpation revealed a

62 a bulky uterus, resembling a 18-week gestational size and a solitary

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63 firm mass posterior to the uterus measuring 5cm X 4cm. An

64 exploratory laparotomy was undertaken with a preoperative diagnosis

65 of a left adnexal mass. Intra operative findings included numerous
66 adhesions and an encapsulated surgical gauze measuring 5cm x 5cm x
67 4cm (Figures 1 and 2).

68 Histological sections were in keeping with gauze surrounded by
69 chronic granulomatous inflammatory reaction. Patient responded well
70 to post-operative management. The hospital where the original surgery
71 was done was informed to facilitate initiation of preventive steps.

72

73

74 Discussion

75 A surgical sponge is the most common type of post surgical retained
76 foreign body³ because of its common usage, small size and
77 amorphous structure. Gossypibioma is derived from (Latin)
78 “gossypium” (cotton) and (Swahili) “boma” (place of concealment).

79 The true incidence of this condition may not be precise as
80 surgeons do not report these events for fear of litigation and
81 improper practice publicity.

82 Reported age range for patients with this condition was 6-
83 92years⁴. The age of the patient of this case report was 32 years.
84 Average discovery time equaled 6.9 years (SD 10. 2 years) with a

Comment [F7]: Please be more specific, adhesions between intestinal loops? Could it explain the pain?

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84 median (quartiles) of 2.2years (0.3-84 years). The diagnosis of this
85 patient was done 12 years after the first surgery. The abdomen (56%),
86 as in the present case, is the predominant site for retained surgical
87 sponge, followed by the pelvis (18%), and thorax (11%).
88 Pain/irritation (42%), palpable mass (27%) and fever (12%)
89 were the leading signs and symptoms⁴. The patient of this case report,
90 presented a painful hypogastric abdominal mass resembling a 18-week-
91 gestational uterus. The possibility of a retained foreign body should
92 always be considered in the differential diagnosis of any post
93 operative patient who present pain, infection or palpable mass³ related
94 to the previous surgical site. CT scan is the first diagnostic method
95 used to reach the diagnosis in this cases. MRI features can be confusing
96 because the radiopaque marker is not magnetic or paramagnetic^{3,5}.
97 Identifying a sponge or gauze during the intra operatory by plain
98 radiography can be difficult. The surgical markers may become twisted
99 or folded and present an unusual image⁶. Also radiopaque markers
100 inside the sponge have been misinterpreted as calcifications, intestinal
101. contrast materials, wire, or surgical clips⁵. Pathologically, two body's
102 reaction are elicited by the foreign cotton, namely: aseptic fibrinous
response

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103 eliciting a foreign body granuloma formation or exudative reaction
104 leading to abscess formation⁵. The retained sponge may penetrate into
105 bowel, bladder, thorax or vagina. This process is rare when compared
106 to abscess formation and occurs as the result of erosion of the
107 adjacent organ wall that evolves to necrosis^{4,7,8}. Treatment for
108 gossypiboma is the surgical removal usually through the previous
109 operative site, but endoscopic or laparoscopic approaches may be
110 attempted⁹. One possible complication during the surgery for removal
111 of retained foreign body is the perforation of adherent bowel loops,
112 which may be overlooked.

114 The hallmark of treatment for Gossypiboma is the surgical
115 policy that prevention is better than cure. The universal guidelines
116 as stated by the American College of Surgery¹⁰ in October 2005
117 should be strictly followed. Only radio-opaque sponges should be
118 used, with accurate sponge counts performed before the procedure
119 and after the procedure. Although human errors cannot be
120 completely avoided¹¹, several adjunct technologies are under
121 development for supporting surgical teams in performing counts
122 and reducing instances of lost or retained sponges. This include the
123 barcode system, which accounts for sponges based on affixed two –

124 dimensional matrix¹². Two additional technologies embed electronic
125 chips within sponges: the electronic article surveillance (EAS)
126 system, which uses magneto mechanical technology¹³; and
127 radiofrequency identification (RFID) microchips, which receives
128 signals sent by a wand like handheld scanner and respond with
129 unique identification code¹⁴. This newer technologies coupled with
130 continuous medical training and strict adherent to rules of the
131 operation room should reduce the incidence of Gossypiboma to a
132 minimum.

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The changes are accepted and already effected in re-submitted manuscript.