

GOSSYPIBOMA: A medical negligence

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Abstract

Objective: To study the variety of clinical presentations of gossypiboma.

Study Design: Retrospective descriptive study

Setting and Duration: Surgical and Obs & Gynae department, Khyber Teaching Hospital, Peshawar from January 1st 2013 to June 30th 2016.

Materials & Methods: After formal approval from the ethical committee records of all patients with age range from 14 years and above of either sex admitted to surgical and Obs & Gynae Department were investigated and cases of gossypiboma were included in the study. Case records were reviewed and information regarding various previous surgical procedures and their presentations collected and tabulated. The results were reported in frequency and percentages. Data was analyzed with the help of SPSS for windows version 20.

Results: A total number of 34 patients were managed during study period in which 11 (26.6 %) were male and 23 (73.4 %) were female. Thirteen (38.2%) patients were presented with wound infection and 8 (23.5%), 8 (23.5%), 5 (14.7%) were presented with intestinal obstruction, abdominal mass and enterocutaneous fistula respectively.

Conclusion: Gossypiboma still seems to be a problem which is under reported in our setup and should be kept in mind in differential diagnosis of post-operative symptomatic patients.

Keywords: Gossypiboma, various procedures, clinical presentations, caserean section.

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Introduction:

Gossypiboma is the combination of Latin word "gossypium" means cotton and Swahilli word "boma" means a placement of concealment.¹ The first case of gossypiboma was reported by Wilson in 1884. The actual incidence of gossypiboma is difficult to determine, as the condition is usually under reported because of associated medico legal implication.²

It occurs once in 1,000 - 1,500 for intra-abdominal operations and once in 300 - 1,000 for all operations.³ Other uncommon sites reported are chest, extremities, cranial cavity, breast and axilla.⁴ The possible causes of sponge retention are emergency surgery, unexpected change in the surgical procedures, poor communication, hur-

ried sponge counts, long operations, unstable patient condition, inexperienced staff numbers, obesity⁵ and when the sponge count was falsely pronounced correct at the end of operation.⁶

Gossypiboma can be observed after all surgical interventions, however, it is more commonly encountered after general surgical and gynaecological operations at a rate of 52% and 22% respectively.⁷ According to Wan et al, gossypibomas were most commonly found in the abdomen (56%), pelvis (18%), and thorax (11%).⁸

The clinical presentation may appear in the early post-operative period or even after weeks, months, or years after operation. The interval from the causative operation to clinical presen-

Table 1: Distribution of Gossypiboma according to surgical procedure.

Procedure	No of cases		%age
Emergency procedures	28	Obstetrics and Gynae	15(44.1%)
		Surgical	13(38.2%)
Elective procedures	06	Obstetrics and Gynae	02(5.9%)
		Surgical	04(11.8%)
Total	34		100%

tation has been reported from first post-operative day to forty three years.⁹ Patients usually remain asymptomatic, however may suffer of non-specific gastrointestinal symptoms like mild abdominal pain or painless abdominal mass, perforation, obstruction, internal and external fistula formation, abscess or sepsis.¹⁰

The diagnosis of gossypiboma is difficult to establish due to non-specific symptoms and imaging methods are usually in-conclusive.⁹ Medical history, physical examination and imaging such as radio-opaque marker or whirl-like image on plain X-ray (35%), hyperechogenic mass with hypo-echoic rim on Ultrasound (34%), a rounded mass with a dense central part and enhancing wall on CT scan (61%), MRI, fluoroscopy and endoscopy are usually helpful in the diagnosis.¹¹

In the literature, open surgery is the most common approach in the treatment of gossypiboma.⁹ However, minimal invasive techniques including laparoscopy or endoscopy can be performed both for treatment and diagnosis depending on the localization of gossypiboma, clinical presentation, skills of the clinician and the availability of medical equipments.¹²

There is no local study and only few studies are available on gossypiboma. We planned this retrospective study to determine the frequency of gossypiboma in various surgical procedures, their presentations in our setup.

Objective:

To study the variety of clinical presentations of gossypiboma.

Materials and Methods:

This retrospective descriptive study was con-

ducted in Surgical and Obs & Gynae Department, Khyber Teaching Hospital Peshawar during three and half years period from January 2013 to June 2016. All adult post-operative patients more than 14 years of both sexes admitted in Surgical and Obs & Gynae Department with gossypiboma were included. Patients and surgeon confidentiality was maintained. Patients with retained surgical instruments other than cotton pack or swab, sites other than abdomen were excluded.

Case records were reviewed and information about patients was collected and tabulated. We recorded the sex, age, previous surgical procedure and presentation of symptoms. Data was analyzed using SPSS version 20. Results were reported as frequency and percentage.

Results:

A total number of 34 cases were reviewed during study period in which 11 (26.6%) were male and 23 (73.4%) were female. The frequency and percentage of gossypiboma in various procedures are shown in Table No. 1.

Discussion:

Gossypiboma is the technical term used to describe a mass composed of cotton material, also called a retained surgical sponge. A surgical item is considered to be retained if an item not intended to remain is found to be in any part of the patient's body after the patient had been taken from the operating or procedure room and a new operation is required to remove the item.¹³

The institute of medicine brought renewed attention to the problem of medical errors in the National Academy of Medicine's treatise "To Err is Human: Building a safer Health System".¹⁴ The retained surgical instruments or items received mainstream attention in 2003 with the publication of a landmark study by Ganwande et al¹³ and reinforced in 2008 by Greenberg and Gawande in a seminal article.¹⁵ Recognizing this problem, the American College of Surgeons approved the "Statement on Prevention of Retained Foreign bodies after Surgery" in 2005.¹⁶ The Centers for Medicare and Medicaid Services stopped reim-

bursing health care facilities for post-operative complications related to retained surgical instruments in 2008.¹⁷

According to the joint commission, retained surgical instruments were most frequently reported sentinel event in 2012¹⁸ and due to legal implications it is difficult to get an accurate measure of frequency and cases are probably grossly under reported, making true estimates of their incidence difficult.¹⁹

Gynecological and emergency surgery are mostly responsible for retained sponges²⁰ and are more common as the case complexity increases, occurring in upto two- third of complex GI cases.²¹ Similar results were also seen in our study.

The clinical presentation of gossypiboma is variable and depends on the location of the sponge and the type of reaction whether exudates leading to abscess formation, wound infection, fistula formation or an aseptic fibrinous resulting in adhesion, encapsulation, and formation of granuloma.⁶ Gossypiboma in intrathoracic cavity, paraspinal area, rarely after breast surgery and even endonasal surgery present with symptoms and signs related to their location as persistent cough, shoulder tip pain, backache, breast carcinoma and nasal discharge respectively.²² Patients may present with a mass or abdominal pain or more commonly, as an incidental finding on a routine post-operative radiograph. Sponges initially placed in the chest or abdomen can erode through the skin or into the GI tract, creating a fistula or an intestinal obstruction, appear in a bowel movement, or cause hematuria.¹⁹ The gauze may go into the gut lumen may lead to spontaneous expulsion per rectum or fistula communication and expelled through vaginal vault.²³ In our study 8(23.5%) were presented with mass abdomen/ pain, 13(38.2%) wound infection, 8(23.5%) with intestinal obstruction. Studies conducted by Jaffary et al,²⁴ in which mass abdomen was the most common presentation (50%) followed by features of intestinal obstruction (43%) and by Moyle describes pain (42%), mass abdomen (27%) and fever (12%).²⁵ In our study most cases were presented

with wound discharge which may be due to operated on infective cases.

Recommendations are to prevent this complication by improving the educational and skill level of the staff, use sponge with radio-opaque marker or electronically tagged, accurate sponge count once before the operation and twice after the procedure, thorough intra-operative search and if still incomplete, a radiograph is recommended.

Limitations of study were, no surgical audit, social, ethical and medico-legal issues. Also this type of study can't be conducted prospectively.

Conclusion:

Gossypiboma is still a problem which is under reported in our setup and should be kept in mind in differential diagnosis of post-operative symptomatic patients. Prevention is of key importance to avoid not only morbidity but also medicolegal consequences and developing strategies for its prevention is more important in the modern era.

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Role and contribution of Authors

Dr Muhammad Naeem, FCPS, Assistant Professor, Department of Surgery, idea and data collection

Dr Munir Ahmad, FCPS, Senior Registrar, Department of Surgery, data analysis

Dr Ambreen Samad, Assistant Professor, Gyn & Obs Department, data collection, literature search

Dr Ihtisham Ul Haq, Postgraduate student, composing, references

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