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Gossypiboma: A Land Mine in Surgical Practice.

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ABSTRACT

Gossypiboma is a word derived from two words. In latin "gossypium" means cotton and a Kiswahili word "boma" which means a place of concealment[1]. The number of cases of gossypiboma reported is actually the tip of the iceberg because many of them are asymptomatic and hence it is said that the gossypiboma is more often an accidental finding than a diagnosis. Usual risk factors for the forgotten gauze is an emergency surgery, a risky surgery, a change in the procedure intraoperatively and in cases of an obese patient. The surgical procedure and the occurrence of the symptoms vary greatly in duration, that there have been reports of gossypiboma even after duration of 40 years.

Keywords: Gossypiboma, Sponge, Surgery

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INTRODUCTION

A gauze or mop left in the abdomen represents an extremely serious iatrogenic complication in major abdominal and laparotomy procedures. The incidence of the phenomenon "retained textile aid" during an abdominal surgical procedure is reported in several case reports is of about 1 in 1000 to 1 in 1500 procedures on an average[2]. Kaiser and et al revising the medical professional insurance company of Boston noticed that a falsely "correct" gauze count happens in 76% of the cases where legal procedure had been undertaken for retained sponge in the abdomen. The figures given above is mainly from forensic literature and from the register of insurance companies involved in legal compensation for mal practice, hence the real incidence is not reflected[3]. Here we can see only the tip of the ice berg. In India the cases of retained foreign body is more compared to western world.

CASE REPORT

A 24yr old male patient who was performed on an abdominal procedure elsewhere for right iliac fossa pain through a right paramedical incision and he was hospitalized 2 months later with complaints of severe pain in the abdomen. The pain was present since 10days associated with vomiting which was non-bilious in nature.

Contrast Enhanced Computed Tomography (CECT) performed on the patient showed large irregular peripherally enhanced collection along the anterior wall in right lumbar region with a few air foci in its wall. The collection was tracking down to extend to pelvis to continue as large cresentric soft tissue mass with internal high density of 476HU with a few air pockets. The mass had whorled appearance with thick enhancing walls suggestive of GOSSYPIBOMA. (Figure 1)

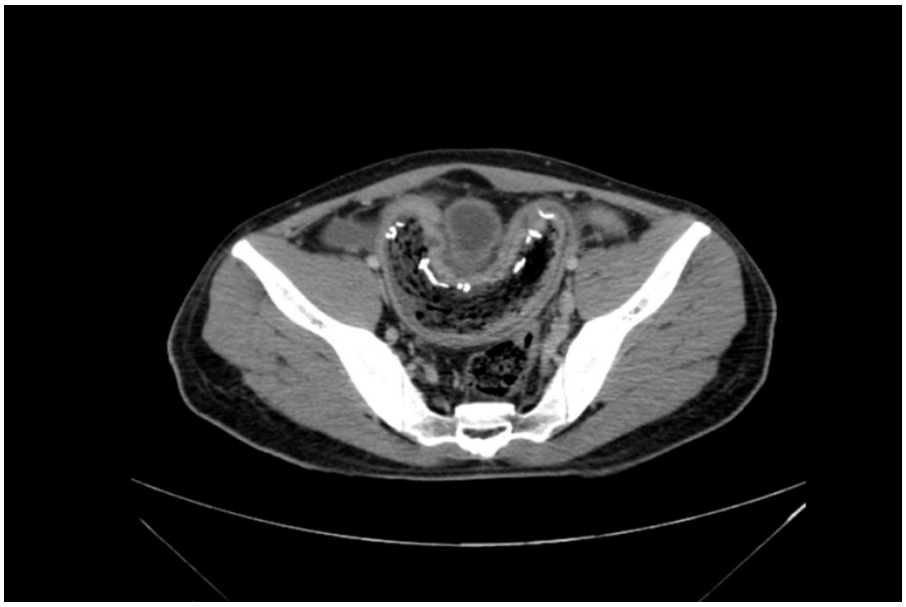

Figure 1: Showing Gossypiboma on CECT

An enhancing soft tissue density was present in subcutaneous plane in right para-umbilical region. Exploratory laparotomy was done on 3rd day with primary closure of ileal perforation and removal of the impacted surgical mop (Figure 2) from the proximal ileal lumen. Feco-cutaneous fistula developed and resulted in peritonitis and burst abdomen. Laparotomy and ileostomy was done. Patient was treated in ICU with antibiotics based on culture and sensitivity.

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Figure 2: Intra operative picture of gossypiboma.

Later he developed pneumothorax, sepsis and multiorgan failure and death followed on 22nd day of hospitalization.

On autopsy we could make out the greenish yellow discoloration of peritoneum with greenish pus with adherent rectus sheath and intestines. Peritoneal cavity contained greenish pus with adhered rectus sheath and intestines. Small intestines were adherent inflamed with greenish foul smelling slough and pus. Ileostomy site was present at a point 5cms away from ileocaecal junction. Other abdominal organs were congested. Final opinion on cause of death was given as septicemia.

DISCUSSION

A major surgical procedure demands the usage of several instruments and many staffs working in a coordinated manner. The surgeon will be mainly concentrating into the technique and skills involved in the surgical procedure, to demand him to keep a count of the instruments and the gauze used in the surgery will not be practically possible, further the diagnosis of a retained object is difficult by clinical examination only. So it is not easy to say that gauze left in the abdomen is always due to real lack of quality in surgeons' part[4].

But according to Turkish Penal Code Article no.280 if a health care giver behaves contrary to his responsibility, he or she may face legal sanctions. Under Indian Penal Code (IPC) if no precautions were taken they can attract a compensation under the law of torts but not a criminal charge or suspension of a license. It comes under civil negligence. Also the liability of the medical attendant is not decreased by the fact that he treated his patient gratuitously in a charitable hospital, but the burden of proving negligence to establish his case rests always on the plaintiff [5].

The medico legal consequences of retained surgical foreign body for the surgeon can be significant. The fact that an instrument or sponge has been left behind is considered proof that malpractice has occurred (res ipsa loquitor). To escape liability under an enquiry the hospital and operative surgeons has to prove that there is a protocol for the hospital in place regarding prevention of Gossypibomas. Under court order it is clearly mentioned that even if there is a protocol in a hospital still accidents can happen which cannot be accounted as negligence. The protocol need to be clearly defined that the surgical swabs and instruments are counted before and after the surgery in every case. And the same is documented before and after the surgery in the case sheet. In hospitals with large surgical volumes and in emergency conditions special precautions which has to be taken needs to be clearly mentioned, the nursing staff and other supporting staff in the operating room needs to train regularly and periodically.

Retained surgical materials are considered 'always wrong,' mandating acknowledgment, direct apology to the patient and hospital payment for all costs incurred as a result. The legal doctrine applied to the

problem of a retained surgical sponge is res ipsa loquitor, 'the thing speaks for itself'. The fact that a surgical foreign object has been retained is, in itself, proves that the malpractice has occurred[4]. The time period between discovery of the sponge and the original procedure was significantly related to the case payment, with higher payments reflecting delayed discovery and difficulties and complications associated with surgical removal. In several cases, a verdict has been returned against the surgeon in spite of a correct sponge count. The surgeon can be held responsible for his or her own failure to examine the field and look or feel for foreign bodies independent of the staff's responsibility to perform accurate counts. The duties are parallel, and one responsibility does not relieve the other. Payments for claims for retained sponges may be greater in jurisdictions where no cap on noneconomic damages exists. In all Indian judgments the negligence has been tried under the law of torts. Never events are situations where deficiency of service and or negligence is presumed and no trial of expert's evidence is necessary.

CONCLUSION

Gossypiboma is a significant medico legalissue which a forensic medicine fellow is very commonly exposed to. The saying "prevention is better than cure" is absolutely true in case of gossypiboma. Appropriate measurements taken by the surgeon and the nursing staff can bring down the occurrence of Gossypiboma .The forgotten surgical sponge can be easily proved by the patient party and is seen as a purely avoidable situation by the court of law. So such an occurrence can prove fatal to the patient and it can be a land mine in a surgeon's career.

RECOMMENDATIONS

Counting of the mop: Dedicated staff for the counting of the surgical mops and sponges before and after the surgery is a must.

Radiopaque strips: Radio opaque stripes over the mop can be detected in a radiograph. So such mops have to be used in the procedure and a radiographic examination has to be done on the patient after the surgery before shifting out of the operating room.

Barcoded mops: Bar coded mops are something which can bring down the occurrence of the forgotten surgical mops. The mops need to be read by the machine before and after the surgery before the surgical closure of the incision and if there is a mismatch an alarm is set off which can alert the operating surgeon.

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