A Review of Medicolegal Consequences of Gossypiboma

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Abstract

Foreign bodies forgotten in the abdomen include towels, artery forceps, pieces of broken instruments or irrigation sets and rubber tubes. The most common surgically retained foreign body is the laparotomy sponge. Such materials (textilomas or gossypibomas) cause foreign body reaction in the surrounding tissue. The complications caused by these foreign bodies are well known, but cases are rarely published because of medico legal implications. The diagnosis of gossypiboma and the second surgical operation needed for removal of medical problem can lead to start of legal problem between the patient and the surgeon at fault. The medico legal consequences of gossypiboma are significant. Patients may be inadvertently informed that masses might be malignant and may undergo unnecessarily invasive investigations, procedures or operations. Gossypiboma may lead to disappointing and undesired consequences for a surgeon; moreover, it is one of the significant medico-legal problems needs to be solved by specialists of forensic medicine.

Key Words: Gossypiboma, Retained, Sponge, Foreign Body, Legal

Introduction

Forgotten or missed foreign bodies, such as cotton sponges, gauze or instruments, after any surgical procedures are considered a misadventure and is associated with several legal problems. The term “gossypiboma” denotes a mass of cotton retained in the body after any intervention. [1] This term is derived from the Latin gossypium for “cotton” and the Swahili word boma for “a place of concealment.” Other terms used for gossypiboma include “textiloma”, “cottonoid”, “cottonballoma” “muslinomas” or “gauzeoma”. Gossypiboma was rarely reported in literature and the reports of this technical oversight are the tip of an iceberg because the symptoms of gossypiboma are usually nonspecific and some patients remain asymptomatic and are never discovered or documentation is not enough in some diagnosed cases. Data concerning the incidence of gossypiboma tend to fluctuate and the incidence of gossypiboma is difficult to estimate because of a low reporting rate lest medico-legal implication. [2]

PubMed reveals about 300 reported cases of gossypiboma worldwide, out of which about 15 from India. Whilst the date of the arising out of first malpractice suit about gossypibomas was reported to be 1933 in medical literature, this date was reported to be 1897 by some medical authors who researched court records and located judgments. [2]

Some textilomas cause infection or abscess formation in the early stage, whereas others remain clinically silent for many years. Most cases of textiloma in the literature have been connected with abdominal or thoracic surgery; very few have been linked with spinal surgery. Although precautions are taken to avoid leaving such materials behind, mistakes do happen and the resultant foreign bodies can cause various clinical and radiological manifestations. In the early period after surgery, these forgotten materials can lead to infections and abscess formation. However, some remain clinically asymptomatic for many years, and then cause a foreign body reaction in the surrounding tissue, with new clinical signs indicating significant mass effect. Foreign bodies that are left behind during operations may organize and increase in size but such changes are not correlated with time. To date, the case reported with the longest period from surgery to manifestation of symptoms is an intrapulmonary foreign body 43 years after thoracotomy. Civil lawsuits brought against surgeons for surgical complications are becoming more frequent, and this is prompting surgical teams to be even more careful. It is possible to overlook cotton and gauze pads in the surgical field. [3]

The medico-legal consequences of gossypiboma are significant. Patients may be inadvertently informed that masses might be malignant and may undergo unnecessarily invasive investigations such as angiography and unnecessarily radical extirpative surgery. [4]
Case illustration:
A 41 year old multi-parous lady presented with pain in abdomen, nausea and vomiting since 3 days and inability to pass stool and flatus since 2 days. The only positive point in her history was an abdominal hysterectomy done two months back. Vital signs were normal except distension of abdomen on examination. All routine investigations were normal. Radiology was inconclusive. Exploratory laparotomy revealed omentum with adherent sallow cotton gauze piece measuring 10 cm x 8 cm x 2 cm, which was removed. Microscopically, the section showed mild fibrosis and granulomatous inflammation with massive multinucleated foreign body type of giant cell infiltration, around the omentum. In the central portion, the whorled stripes of gauze fibres were also seen. Post operative course was uneventful.

Figure 1: Photograph showing the post-operative specimen of the gossypiboma – gauze piece adherent with omentum

Discussion:
Retained surgical sponge or gossypiboma in the abdominal cavity is an infrequent but serious surgical complication that may lead to medicolegal problems. The condition has not been very frequently reported due to possible medicolegal concerns. Surgical sponges are made of cotton that does not stimulate any specific biochemical reaction except adhesion and granuloma formation. They may be a cause of an asymptomatic condition for a long time. The clinical presentation of gossypiboma is variable and depends on the location of the sponge and the type of reaction. Gossypiboma can have two different types of body responses: exudative and aseptic fibrous. Retained sponges may cause no adverse effects in patients and may remain undiscovered for decades. Alternatively, retained sponges may lead to serious sequels, including sepsis, intestinal obstruction, fistulization, perforation and its complications may lead to death with the death incidence ranging from 15 to 22 %. [2, 5, 6] Inadvertent retention of a foreign body in the abdomen often requires another surgery to recover the material. This increases morbidity and mortality. [7]

It is not easy to say whether cases of gauze left in the abdomen are always due to a real lack of quality on the part of the surgeon or of the theater nurse. Moreover it has been reported that the interval between the probable causative operation and the diagnosis of retained gauze may range from 11 days to 28 years. [8]

In such cases, the diagnosis of gossypiboma and the second surgical operation needed for removal of medical problem can lead to start of legal problem between the patient and the surgeon at fault. In this situation, even if a medical doctor is reluctant for diagnose gossypiboma and reporting a colleague to juridical authorities, the reporting of criminal acts to juridical authorities was defined a responsibility in the penal codes in Turkish Penal Code (Article 280). According to rule, if a healthcare behaves contrary to this responsibility, he/she may face penal sanctions. Gossypiboma was reported as the classic example of medical negligence in which an expert failed to achieve the standard of care required. Standard care is defined to be a care needed for a medical doctor who has same situations and same conditions in consideration of scientific and technique developing level of medicine science, labor conditions, and educational level of medical doctor. [2]

The occurrence of a retained object, such as a surgical sponge, following completion of an operation is the classic example of medical negligence in which an expert to establish the standard of care is not required. It can also rely on a res ipsa loquitur or common knowledge approach. There is little question that the standard of care has been breached. However, there can be a heated controversy over who committed the breach. While these cases are difficult, the surgeon can be exonerated or shown to be a minor player in this unfortunate drama. Regrettably, this has the consequence of pitting defendants against each other in the course of the case. Furthermore, in some jurisdictions, the surgeon is held responsible for the errors of other members of the surgical team. [9, 10]

Foreign bodies retained in the peritoneal cavity after surgeries are rarely documented owing to medical, legal and other reasons. Each such incidence acquires major importance because of excessive media hype nowadays which can jeopardize the reputation of a surgeon amongst his professional colleagues and public at large. What happens as in the present case when there is reversal of events i.e. all clinical and radiological features points toward the suspicion of retained intraabdominal foreign body but on reoperation no foreign body is found? This case is
being reported to emphasize the fact that even when there is high index of suspicion for a retained intraabdominal foreign body, the reoperation may be carried out by explaining the indication of resurgery different rather than retained foreign body, as incisional hernia in the present case, to avoid unnecessary embarrassment. [11]

Because these cases are avoidable and frequently injurious, many lead to malpractice claims; given the high likelihood of litigation after such cases, most liability insurers also encourage clinicians and hospitals to report them. Therefore, we used malpractice-insurance files from several institutions to identify cases. Malpractice claims and reports are an imperfect representation of the true incidence and nature of any complication. Some cases of retained foreign bodies undoubtedly did not result in either a claim by a patient or a report by the physician to the insurer. The factors involved in such cases may differ from those in the cases we studied. However, we know of no reason why they would differ in terms of the mechanism of causation. In addition, these mishaps appear to have a high likelihood of leading to litigation, given how injurious and potentially avoidable they are. [12]

It is clear in most recent publications that the rate described is grossly underestimated; reasons for this are related to the possible medico-legal implications, the fear of litigation which could end up in heavy expenses for compensations and adverse publicity for institutions and surgeons; in fact, it is clear that the responsibility of the surgeon and members of the team in the Operation Theatre could be called in case of litigation. Concerning the medico-legal aspect, the local laws define responsibilities and compensation mechanism following what is described as medical negligence; but, despite the fact that all our patients and/or their relatives were informed of the findings, none of our cases resulted in malpractice claim! No rate of retained foreign body can be considered “acceptable” whatever the environment and conditions of work; their consequences in terms of morbidity and mortality can still be too heavy and costly. Their management will still rely for a long time on prevention because in almost all cases, it could be related to human errors; this type of errors will probably never be completely abolished, but the incidence of retained surgical sponge can be reduced to a “minimum” by strict adherence to regulations, especially systematic and rigorous sponge count; this is particularly important during emergency procedures. [13]

In medical literature, there are few articles about the medico-legal evaluation of gossypiboma. One such case from Turkey reports that, the court inquired about possibility of life threatening situation, organ weakness, and fertility. The experts concluded that the retained sponge was related to procedure and was a serious complication and amounted to medical malpractice and it threatened the life of victim, but did not cause to organ weakness or infertility. [2]

According to the theory of loss-of-chance, the damage of plaintiff is the loss of the chance of survival or recovery; and there would be compensation for this loss. The preexisting condition and the effect of the doctor’s tortuous conduct attach within a relatively short time, the burden of providing the extent to which the preexisting condition influenced the health of the patient should be shifted to the doctor. [14]

The claims about medical negligence can be usually subject to trials in both of penal judgment and compensation trial. Gawande et al reported that, in 47 cases from 1985 to 2001 in USA, claims resulted in an average of $52,581 in costs for compensation and legal-defense expenses. Kaiser et al [15] demonstrating a prevalence of 40 cases from 1988 to 1994 in USA, with an expenditure of $572,079 for defense costs and $2,072,319 in indemnity payments, indicate that the issue about retained surgical sponge may reflect a more widespread and significant problem than generally is expected.

A falsely correct gauze count happens in 76% of the re-operated cases. Nevertheless, since this figure derives mainly from forensic literature or from the insurance companies, it may well be that it does not reflect the real incidence of the phenomenon. If all such cases were openly reported, the incidence would most certainly be higher and could be listed among the other possible surgical complications, which though impossible to eliminate completely, and that this could lead to a considerable change in medico-forensic attitudes towards the problem.

In spite of continual improvement in surgical procedures and the technical evolution aimed at protecting patients in the operating theatre, published data report that the problem of residual foreign bodies after surgery is still unresolved and, furthermore, the scarcity of reports regarding this event, probably due to the inevitable medico-forensic implications, means that its incidence is still underestimated. It is therefore to be hoped that cases of retained surgical gauze in the abdomen will be constantly reported in the medical literature in future, in order to make a real estimate of the incidence of this event, to standardize recommended procedures for avoiding it, but above all, in order to modify the medico-forensic implications of the phenomenon. [16]

In some countries, medical negligence cases are often commenced as criminal proceedings, as cases of manslaughter or personal injury. To avoid gossypiboma-related troubles, the operating room team must pay thorough attention to detail, surgical sponges should always be counted at least twice, one
by one (once preoperatively and once postoperatively), radiopaque filaments should be used, the surgeon should completely explore the abdominal cavity before closing the peritoneum, and, if there is doubt about the count of sponges, intraoperative abdominal x-ray must be performed. [2]

Conclusion:
Retained surgical sponge can lead to significant medical and legal problems between the patient and the doctor. It may be incorrectly diagnosed preoperatively, which can lead to unnecessary invasive diagnostic procedures and operations. [17] Possible excuses given for sponge retention are emergency surgery, unexpected change in the surgical procedure, disorganization, hurried sponge counts, long operations, unstable patient condition, inexperienced staff, inadequate staff numbers, and patient with high body mass index; but these cannot be allowed to prevail. [2] Patient-clinician and clinician-radiologist interactions and compliance enhance the possibility of accurate diagnosis. [18] In spite of the diagnostic and therapeutic difficulties, the presence of a foreign body inside the patient can be easily proved and the patient may litigate the responsible surgeon because this is an avoidable problem [19] and the surgeon will face charges of negligence. [20]

References: