



Case report

FRACTURE OF THE SURGERY TABLE PRIOR TO PERFORM A TUBAL LIGATION ON A PATIENT

Palabras clave: Informes de caso; Procedimientos quirúrgicos; Efectos secundarios; Esterilización; Procesos de ventilación.

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SUMMARY

This paper reports the case of a patient about to undergo a tubal ligation; after inducing anesthesia, the surgical table where the patient lay in a state of deep sedation and analgesia fractured, exposing her to a fall. The patient did not suffer any injury and it was determined that the cause of the fracture was the wear of a support piece of the surgical table, which is considered material fatigue.

INTRODUCTION

Tubal ligation is a surgical contraceptive method that involves the bilateral occlusion of the fallopian tubes to impede the union of gametes and permanently prevent pregnancy (1, 2). This surgical procedure allows accessing the abdominal-pelvic cavity through a small incision using local anesthesia and laparoscopic techniques (2).

More than one hundred million women of childbearing age have used this procedure and it is estimated that over one hundred million women from developing countries will request this service in the next 20 years. In the United States of America, more than two million women between the ages of 20 and 49 underwent this procedure between 1994 and 1996, an average of 684000 women per year. In 1990, a number of one hundred and ninety-one million users worldwide was estimated, 22% of them from developing countries and 17% from developed countries (1.2). In 2000, 37% of women used this method for birth control in Colombia (1).

Currently, there are two options that allow these patients to regain their fertility after undergoing this intervention: surgical reversal and in vitro fertilization (2).

For this type of intervention, an operating table with basic features such as stability, stable padding and an electrohydraulic base is necessary (3). This tool has different types of movements—including height regulation, lateral tilt, Trendelenburg/anti-Trendelenburg position, regulation of the legs and head, among others—that must be tailored to each type of surgery (3-5).

An unusual situation occurred in the operating room due to a possible material fatigue of the operating table is presented in this paper. This description is deemed as the documentation of a rare event with possible implications that should be taken into account.

CLINICAL CASE

The surgery table used for a forty-two year old patient, admitted on May 24, 2014 in an outpatient surgery center with more than 40 years of experience, fractured after induction of anesthesia and immediately before starting a tubal ligation surgery, which could have had serious consequences.

The patient did not have any medical history and was classified as an overweight patient (68 kg, ASA 1, 158 cm tall and BMI 27.24). Anesthesia was induced using the deep sedation and analgesia technique by Profamilia (1): remifentanyl 75 mcg, meperidine 25 mg, ketamine 25 mg and propofol 30 mg. The airway was managed with assisted ventilation using a face mask and oxygen flow of four liters per minute. Immediately before initiating the surgical procedure, the surgery table fractured in half (see Figure 1). The patient avoided a fall because of the fast reaction of the gynecologist, who lifted her in his arms as soon as the



Fig 1. Condition of the operating table after the fracture.

Source: Own elaboration based on the study.

fracture occurred and transferred her to another stretcher, and of the anesthesiologist, who performed protection maneuvers for the cervical spine and administered oxygen and ventilation.

The patient did not have any hemodynamic change; her blood pressure, heart rate, pulse oximetry, continuing capnography and cardio-scope were monitored at all times and the scheduled surgery was performed five minutes later in a different room without complications.

DISCUSSION

According to Profamilia, the position of the patient for the tubal ligation procedure should be as follows:

“The patient is placed in lithotomy position, with the superior left limb placed next to the body on the operating table and the left hand in supination (see Figure 2). The superior right limb remains in abduction of 90°

or less, on an armrest, with the right hand in supination. In this situation, it is considered that the ‘team must accommodate to the patient and not the patient to the team’, therefore, nurses and anesthesiologists can be confident that the patient does not feel any abnormal pressure over the nerves or joints, nor exaggerated traction on any of her four limbs.” (5)

On no account should a patient under the effect of anesthetic agents move by her own means from the surgery table to the stretcher, even if she is awake; hence, the patient was moved from the operating table to the transportation stretcher by four people (two on each side) using a roller: one person was responsible for putting the roller under the sheet or the place where the patient lay, the other for holding the patient and then pushing her towards the stretcher and another person was responsible for lifting her legs, while the anesthesiologist supported the head and led the moving process.



Fig 2. Position of the patient for tubal ligation.

Source: Own elaboration based on the study.

According to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) 1995-2003, the surgical equipment must comply with safety precautions for patients that require being put under anesthetic effects on the surgery table: lying on a fixed surface where the patient can be secured, monitoring at all times during the perioperative and providing all security measures when transporting the patient to another table or bed to prevent the patient from doing it by themselves while being under an anesthetic drug effect. For this reason, it is highly recommended to prepare a guide for fall prevention management in the operating room (6).

The literature on patients falling during the perioperative does not relate specifically to the fracture of surgery tables, as this case does, but to the patient rolling on the table or to failures in the control of the inclination of the tables when position changes are required, among others (2-4,6). When this adverse event occurs, the consequences can be as serious as the death of the patient (4) or can produce different degrees

of morbidity, delays in the surgery, cancellations of scheduled procedures, prolonged hospital stay, medical claims and high health costs.

The revision of the data for this operating table revealed that its brand was Trident, made in Taiwan, Model Novel S.5600, electro-hydraulic and that it was acquired in October, 2008. Regular maintenance was performed by the electro-medical staff every four months. The main support of the table probably broke due to material fatigue (excess of cumulative weight and frequent changes of position, repetitive Trendelenburg movements and posterior neutral position, besides reaching its maximum height about 15 times a day on average), which is inferred based on the diagnosis performed by the engineers who concluded that the mechanical wear of the piece that belongs to the central support and the failure in the melting of the piece (a bubble in the metal piece can be seen) generated the fracture (see Figure 3).

Medical incidents that turn into adverse events may occur suddenly, even if a checklist



Fig 3. Image of the bubble in the piece of the surgical table.

Source: Own elaboration based on the study.

is completed and all control and safety measures are taken in the operating room.

Frequent monitoring of the state of all devices and elements that will be used on patients and taking preventive measures to avoid events such as falls during the perioperative period are suggested.

CONCLUSION

The fracture of a surgical table during the perioperative period is a highly rare incident that may imply serious consequences for the patient, therefore, the surgical team must take preventive measures to disregard material fatigue and develop a guide to prevent and manage patient falls.

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CONFLICTS OF INTEREST

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