EVALUATION OF THE EFFECTS OF PROLONGED FURNITURE PRIOR TO AND AFTER OPERATING

Avaliação dos efeitos do jejum prolongado no pré e pós-operatórios

Evaluación de los efectos del jejum prolongado en el pré y post operatorios

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ABSTRACT

Objective: To investigate prolonged fasting in patients who underwent abdominal and gastrointestinal surgical procedures with general anesthesia, and possible complications in the pre, intra and postoperative periods.

Method: an exploratory-descriptive study, with retrospective-documental cross-section and qualitative-quantitative approach, performed at a Federal Hospital of Rio de Janeiro, with documentary analysis from January 2013 to April 2018. Result: there was a great variation in time of preoperative fasting, with 0.3% of patients fasted for up to 8 hours and 11.3% for up to 12 hours, some cases reaching more than 24 hours fasting. Conclusion: Patients were found to be in perioperative fasting far beyond the stipulated safety standards, generating complications that cause discomfort to the patient, impair rehabilitation, increase length of hospital stay, and burden the system.

Descriptors: Fasting, Nursing, Perioperative care, Operative surgical procedures, Nursing research.
RESUMEN

Objetivo: Investigar el ayuno prolongado en pacientes que se sometieron a procedimientos quirúrgicos abdominales y del tracto gastrointestinal con uso de anestesia general, y las posibles complicaciones en el pre, intra y postoperatorio. Método: un estudio exploratorio-descriptivo, con recorte transversal documental y abordaje cualitativo, realizado num Hospital Federal de Rio de Janeiro, con análisis documental referente al período de enero de 2013 a abril de 2018. Resultado: ocurrió una gran variación en el tiempo de ayuno preoperatorio, 0,3% de los pacientes hicieron ayuno hasta 8 horas y 11,3% hasta 12 horas, algunos casos llegaron a hacer más de 24 horas de ayuno. Conclusión: fue notable que entre los prontuarios analizados, los pacientes permanecieron en ayuno perioperatorio muy superiores fuera de los estándares de seguridad estipulados, generando intercorreres que causan desconforto al paciente, prejudican a la reabilitación, aumentan el tiempo de internación y oneran el sistema. Descriptores: Ayuno, Enfermería, Asistencia perioperatoria, Procedimientos quirúrgicos operatórios, Pesquisa em enfermagem.

INTRODUCTION

Around the 1950s, when anesthetic techniques were still performed with chloroform, in order to prevent pulmonary complications associated with vomiting and aspiration of gastric content, preoperative overnight fasting 8 to 12 hours was routinely instituted before surgical procedures using anesthetic induction. The establishment of this routine guarantees gastric emptying and prevents broncho-aspiration during anesthetic induction. Mendelson was one of the pioneers to institute preoperative fasting when observing a group of pregnant women who, after general anesthesia, aspirated gastric contents during delivery, giving his name to this complication, Mendelson's Syndrome.¹

Over the years, attempts have been made to improve fasting routines in order to avoid Mendelson's syndrome, and nursing has a fundamental role in preparing patients in the preoperative period by performing a physical examination, guiding the removal of accessories, clothes, emptying of the bladder, body, capillary and oral hygiene, the removal of prostheses and especially regarding the preparation of fasting.

However, in some cases fasting has been noticeably extended. This excessive prolongation occurs for several reasons, including delayed start of surgery, changes in time or place of treatment, postponement to another period of the day or cancellation and delayed return of the diet, which makes it harmful for the patients, especially the elderly. The surgical experience ends up becoming traumatizing and negative, felt physically and mentally since the prolonged fasting increases the changes linked to the surgical fact.²

In a hospital environment, communication is severely impaired due to the high workload of the teams and interpersonal conflicts. The nurse, as a manager, needs to have communicative competence to manage interpersonal conflicts preventing stress that they generate and interfere with patient care.

Prolonged fasting is viewed negatively by some, as it carries some risks, including increased insulin resistance, loss of muscle and protein mass.³ The ASA (American Society of Anesthesiologists) ³, after reviewing studies, developed guidelines for preoperative fasting, which recommend: - Fasting for 2 hours: clear liquids without alcohol and with a little sugar; - Fasting for 4 hours: breast milk for newborns and infants; - Fasting for 6 hours: light diet and non-breast milk, and for children infant formula; - Fasting for 8 hours: fatty foods, fried foods and meats.

Currently, there are projects aimed at minimizing injuries, traumas and stresses resulting from surgical procedures and improving perioperative techniques. Worldwide, the European protocol ERAS (Enhanced Recovery After Surgery) of The European Society of Clinical Nutrition and Metabolism stands out, in which northern European doctors developed a multicentric project to support evidence-based medicine describing perioperative care with recommendations for patient care in various stages of the operative process.³

In Brazil, based on the ERAS protocol, the Acerto Project (Acceleration of Total Postoperative Recovery) was created. This project defines some preoperative prescription routines, such as nutritional support, reduction of the preoperative fasting period; intraoperative, such as the decrease in venous hydration and other fluids; and postoperative such as early feedback and restriction on the use of probes and drains. Through the implementation of the multidisciplinary protocol, they demonstrated the involvement of the services of general surgery, anesthesia, nutrition, nursing and physiotherapy, establishing a set of perioperative care aimed at improving the recovery of the surgical patient.⁴

From the context of prolonged fasting and the need to verify and discuss the occurrence of pre-, intra- and
postoperative complications, the present study aimed to investigate prolonged fasting in patients who underwent abdominal and gastrointestinal tract surgical procedures with the use of general anesthesia, and the possible complications in the pre, intra and postoperative period through the documentary analysis of those who were hospitalized in the general surgery sector and were already discharged.

METHODS

This is an exploratory-descriptive study, with a cross-sectional retrospective using documentary, qualitative and quantitative approaches. Data collection took place between January and March 2019 at the Documentation and Medical Statistics Service of a Federal Hospital in Rio de Janeiro, in which the documents made available allowed the analysis of 1,382 General Surgery records ranging from January 2013 to April 2018, among which 610 medical records met the inclusion criteria: medical records of patients who underwent abdominal and the gastrointestinal tract surgical procedures using general anesthesia; patients who remained fasting more than 8 hours and did not perform the scheduled surgical procedure at the first moment, but later did so; patients who were discharged from the hospital and patients older than 18 years. The data were collected through an evaluation form consisting of 22 items.

The research followed the rules of Resolution 466/12; as well as Operational Norm 1/2013 both by the National Health Council and its complementary notes; thus guaranteeing confidentiality, secrecy and anonymity of the information provided. Data collection started after approval by the Research Ethics Committee of the Federal Hospital in question was received under number 3,039,912. We justify the need for this study due to the great gap that exists in the role played by health institutions and in the strong evidence proven and documented by several scientific studies that due to lack of communication between the teams, resistance and ignorance are not carried out, disregarding the principles of beneficence and non-maleficence.

RESULTS

Of the 610 medical records of patients undergoing abdominal surgical and gastrointestinal tract procedures using general anesthesia analyzed, 75.1 (75.1%) were female, and 24.9 (24.9%) were male, with majority between 50 and 69 years in both sexes.

In relation to the surgical site, the gallbladder was the most frequently addressed organ in both sexes, however the female sex presented a higher percentage in relation to the male according to the data in table 1.

We highlight the absence of records from the teams regarding complications during the perioperative period (1,049), especially in the intraoperative period (567), which hinders arriving at a more reliable result of the research. Analyzing the complications resulting from fasting described in Table 2, there were reports of general malaise (517).

Preoperative cardiovascular changes (133) were reported related to anxiety due to the surgery and hunger due to prolonged fasting, and in many cases they remained in the postoperative period (159), such as hyper and hypotension, arrhythmia, tachycardia and bradycardia.

According to the evaluation of the fasting time stipulated by the medical team shown in table 2, there was no standard or average time adjusted by the teams for pre-anesthetic / surgical fasting, which can be observed in table 3, regardless of the surgical area. There was a wide
variation in the preoperative fasting time, in which three (3) patients fasted for up to 8 hours (0.5%) and 69 did it for up to 12 hours (11.3%), in some cases even doing more than 24 hour fasting.

Table 2 - Fasting time stipulated by the medical team in the preoperative period. Rio de Janeiro, RJ, Brazil, 2019.

<table>
<thead>
<tr>
<th>Fasting time</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>8h</td>
<td>272</td>
<td>44.6</td>
</tr>
<tr>
<td>&gt;8h - 12h</td>
<td>151</td>
<td>24.8</td>
</tr>
<tr>
<td>12h</td>
<td>7</td>
<td>1.1</td>
</tr>
<tr>
<td>&gt;12h</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>Not reported</td>
<td>1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

**DISCUSSION**

The surgical patient is very vulnerable both due to the intervention that will performed and to the changes that may occur during the process. Prolonged fasting causes great discomfort to the patient, causing anxiety and agitation before surgery, resulting in metabolic changes such as insulin resistance resulting in hyperglycemia and also a decrease in insulin in peripheral tissues which makes glucose uptake difficult, consequently affecting recovery, increasing the length of stay. Therefore, it is important that the entire nursing team is prepared to ensure the safety, comfort and well-being of this patient, ensuring quality health care.

The patient who has fasted for a long time becomes more susceptible to infections, as metabolic changes occur with a decrease in caloric intake that leads to malnutrition, increasing the difficulty of the inflammatory response and the weakening of the immune system. Fasting for more than 12 hours causes significant cardiovascular and blood pressure changes. Depletion occurs in the intravascular volume due to compartmental imbalance with a reduction of about one liter of liquid and the body does not stop, the elimination of fluids continues through breathing, sweating, salivation and other functions. With this, the body activates several mechanisms in an attempt to balance and mitigate the symptoms of fluid loss that, associated with changes caused by the drugs used in general anesthesia, can lead to complete hemodynamic imbalance.

In relation to the postoperative period, early feeding between 12 - 24 hours improves the patient’s well-being and plays an important role in the postoperative recovery process, accelerating the healing. In addition, the psychological factor of food deprivation must also be considered. When it comes to costs, early feeding should be considered as a reduction factor, since patients who eat early tend to have shorter hospital stays, making the system less burdensome.

According to Ortolon, Kovalski, Belonci and Ferreira, the conventional night fast, commonly called “nothing by mouth”, accentuates the symptoms of thirst, dehydration, weakness, hunger, irritability and anxiety in the postoperative period. Thirst is often reported by patients, causing great discomfort, irritability and anxiety, but it is a symptom little valued by the teams, with few records.

It has become more and more noticeable that patients are fasting longer and longer, with different time than what was prescribed in the pre- and postoperative periods, which ends up being overlooked by professionals, exposing the need for medical professionals to readjust the new policies and protocols established worldwide.

There are currently fasting recommendations for different types of food, as they differ in both digestion and absorption. The ASA (American Society of Anaesthesiologists) recommends fasting for up to 2 hours for clear, residue-free liquids, up to 6 hours for light meals.
and up to 8 hours for meat and fatty foods.

Thinking about ways to minimize the aggravations caused by prolonged fasting and accelerate the postoperative recovery, the ACERTO Project (Acceleration of Total Postoperative Recovery) was implemented in Brazil. It considers several aspects of the care of the surgical patient as the restriction regarding the use of nasogastric tube and drains, early ambulation, abbreviation of preoperative fasting, early return of the postoperative diet and restriction of venous hydration.\(^1\)

The ACERTO Project recommends as a way to shorten fasting time the intake of liquid enriched with maltodextrin, a carbohydrate that helps to reverse insulin resistance caused by surgical trauma\(^1\), and also has a beneficial psychological factor in reducing anxiety and hunger caused by fasting.

According to Campos, Barros-Neto, Guedes and Moura\(^2\), patients who ingested a carbohydrate-based drink in the preoperative period avoided the occurrence of two or more symptoms involving the gastrointestinal tract, including abdominal distension and vomiting. Drinking fluids in the preoperative period is beneficial for the patient because, in addition to preventing malnutrition, it also prevents thirst.

The Brazilian Society of Parenteral and Enteral Nutrition in association with the Brazilian Association of Nutrology, developed a draft guideline to assist physicians on the approach to better nutritional therapy for patients in the perioperative period. This project aims to reduce cases of malnutrition in surgical patients, as it causes complications in the postoperative period and death. They recommend 7 to 14 days of preoperative nutritional therapy for patients at greater risk of malnutrition, who will undergo medium and large surgeries and the reintroduction of the diet as early postoperatively as possible, between 12 and 24 hours after surgery.\(^2\)

**CONCLUSIONS**

In a hospital environment, communication is severely impaired due to the high workload of the teams, inflexibility and interpersonal conflicts. Managing these conflicts requires the nurse to act as a manager, have knowledge and the ability to communicate, that is, to develop communicative competence, thus preventing these conflicts from generating stress and interfering with care.

It is possible to observe failures in communication between the teams, which consequently bring inconvenience to hospitalized patients, especially in relation to the pre-established fasting period that is inconsistent with current protocols; the lack of standardization for the beginning and end of the fasting time that does not take into account the conditions of the patients and / or studies; the prolonged fasting due to cancellation of procedures or surgeries; the length of hospital stay thus avoiding the complications identified in the present study for the patient’s physical and mental well-being.

The medical records analyzed indicate that the patients remained on perioperative fasting far longer than safety standards stipulate, generating complications that cause discomfort to the patient, impair rehabilitation, increase the length of hospital stay and burden the system. We suggest that new practices be adopted by the multidisciplinary team of the research hospital in question in the service's routines, thus changing conservative behaviors with the implementation of current protocols and bringing the entire health team of the patient during hospitalization, in addition to the patient and his family. May new studies emerge to improve our clinical management.

**REFERENCES**

