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PRE-ANESTHETIC EVALUATION IN PATIENTS WITH LIVER DISEASE

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Abstract: Surgery in patients with compromised liver function presents significant challenges, including complications and mortality. Careful preoperative screening is crucial to identify pre-existing liver disease. The presence of liver disease affects several aspects of surgery and anesthesia. Measures must be taken before surgery to reduce complications in patients with liver disease.

INTRODUCTION

Performing surgeries on patients with compromised liver function can result in high rates of complications and mortality. An ideal preoperative screening seeks to identify pre-existing liver diseases without the need for invasive methods. Clinical history and physical examination provide important clues in this regard.

Routine assessment of liver function is not necessary unless there are changes in the history or physical examination. Liver disease can have several impacts on surgery and anesthesia, such as anesthetic induction, hemorrhages, hypoxemia, hypotension, use of vasoactive drugs and even the patient's position on the surgical table, which can lead to a decrease in oxygenation and increase the risk of liver dysfunction in the intra and postoperative period. Emergency surgeries are an important indicator of unfavorable prognosis, as is the presence of sepsis.

For adequate preoperative preparation, it is necessary to take into consideration, the nature of the liver disease, its severity and the type of surgery to be performed. Measures must be taken before surgery to reduce the chances of complications in patients with liver disease undergoing surgical procedures, including appropriate treatment of coagulopathy, encephalopathy, ascites, renal and pulmonary dysfunction, spontaneous bacterial peritonitis and esophageal varices.

GOAL

Explore the hepatic approach in pre-surgical anesthetized evaluation.

METHODOLOGY

The present work consists of a qualitative literature review that sought to address results found in research on surgical and liver issues, whether in a comprehensive, orderly or systematic manner. To carry out the work, the following steps were followed:

1. Selection of corresponding themes;
2. Selection of samples found and used;
3. Analysis of the characteristics of the original research;
4. Analysis of the results obtained;
5. Carrying out the review.

The scientific literature databases and the techniques used to carry out the review were Google Scholar, Scientific Electronic Library Online (SciELO), Virtual Health Library, Latin American and Caribbean Literature in Health Sciences (LILACS).

Thus, the present work seeks to analyze the surgical interface within the different thematic points correlated to the anesthetic front and its pre-operative assessment, aiming to shed light on an educational path.

DISCUSSION

Surgeries performed on patients with reduced hepatic functional reserve can present high rates of morbidity and mortality. Currently, asymptomatic patients with undiagnosed cirrhosis often undergo elective surgeries. It is important to remember that impaired liver function affects the metabolism of medications, the elimination of external and internal toxins and the production of blood proteins.

Therefore, an adequate preoperative evaluation is essential to identify and control these problems that may arise during the surgical procedure, in order to reduce these

risks.

An ideal preoperative screening aims to detect pre-existing liver disease while avoiding invasive methods. Clinical history and physical examination are important to observe changes such as jaundice, ascites, spider veins, hepatosplenomegaly, palmar erythema and hair thinning. Risk factors such as blood transfusions, drug use, alcoholism, family history of jaundice or hereditary liver disease, adverse reactions to anesthesia and use of medications must be questioned and reported by the interviewer.

Liver investigation through complementary exams for routine surgery is not necessary, unless there are changes in the patient's history or physical examination. Despite the high incidence of viral infections and obesity-related fatty liver disease, the prevalence of liver disease in the general population is low.

A commonly used and valid form of liver assessment is based on creatinine, total bilirubin and INR values. These criteria are used by many doctors in several countries, including to determine the placement of patients on liver transplant lists.

Observation of liver diseases is essential during anesthetic evaluation, considering the duration of action of certain medications in the body. In cases such as cirrhosis, it is important to avoid the use of opioids such as morphine due to their increased bioavailability and prolonged half-life. Furthermore, benzodiazepines such as midazolam and diazepam can cause organic retardation and must be avoided to prevent central nervous system depression and encephalopathy.

Administration of general anesthetics may decrease hepatic blood flow, which is considered critical and may lead to loss of existing minimal hepatic functions.

Inhalational anesthetics, such as halothane, can reduce hepatic blood flow and cause drug-induced hepatitis. Using isoflurane preserves blood flow. Anesthetic induction, hemorrhages, hypoxemia, hypotension, vasoactive drugs and the patient's position on the surgical table can decrease oxygenation and increase the risk of liver dysfunction during and after surgery.

In cases of emergency surgery, the difficulty in carrying out a complete analysis of the patient's general condition, especially with regard to the liver, can be an indicator of a poor prognosis for the patient.

When carrying out preoperative preparation, it is important to consider the nature and severity of the liver disease, as well as the type of surgery to be performed. The presence of obstructive jaundice is associated with an increase in perioperative mortality. However, preoperative drainage of the bile duct does not improve morbidity and mortality, except in cases of cholangitis, when drainage must be performed.

The presence of acute hepatitis is a factor that increases the risk of complications during surgery, which can lead to an increase in morbidity and mortality. Therefore, it is recommended that elective surgeries be suspended when acute hepatitis is diagnosed, in order to ensure patient safety. Likewise, the presence of acute alcoholic hepatitis also requires the suspension of elective surgeries, due to the greater risk of complications.

On the other hand, chronic hepatitis in asymptomatic patients is not considered a surgical contraindication, as long as there is no dysfunction of the affected organ. This means that if liver function is preserved and there are no significant symptoms of chronic hepatitis, surgery may be considered feasible.

It is important to highlight that the type of surgery also plays an important role in the postoperative outcome in patients with liver disease. Emergency, abdominal and cardiac surgeries present a greater risk for patients with

acute or acute alcoholic hepatitis. Therefore, measures must be taken preoperatively to reduce complications in these cases, such as treating coagulopathy, controlling ascites and preventing encephalopathy.

In summary, the diagnosis of acute hepatitis increases the risk of surgical complications, requiring the suspension of elective surgeries. However, the presence of asymptomatic chronic hepatitis is not a surgical contraindication, as long as there is no organ dysfunction. Careful assessment of liver status and consideration of the type of surgery are essential to ensure the safety of patients with liver disease during the surgical procedure.

Preoperatively, it is recommended to perform a platelet transfusion when levels are below 50,000 to ensure adequate clotting during surgery. During the surgical procedure, coagulopathy can be monitored through thromboelastogram, allowing more precise control.

Patients with intense fibrinolytic activity due to massive blood loss may benefit from the use of epsilon-amino-caproic acid and tranexamic acid, as both have antifibrinolytic properties, helping to control hemorrhage during surgery.

Preoperatively, it is important to treat ascites to avoid respiratory complications and wound dehiscence postoperatively. This can be done by restricting sodium in the diet and using diuretics such as spironolactone and furosemide.

In cases where there is an increase in serum creatinine and sodium levels below 125 mEq/1, diuretics must be discontinued. Additionally, it is essential to carefully monitor electrolytes preoperatively to ensure proper balance.

For patients with liver cirrhosis, hyponatremia is common, therefore, it is recommended to restrict fluid intake and monitor waist circumference and weight daily. In cases of ventilatory restriction, relief paracentesis can be performed to relieve abdominal pressure.

The occurrence of encephalopathy in liver patients can be prevented by treating triggering factors, such as hypokalemia, alkalosis, hypoglycemia, hypovolemia, digestive hemorrhage, use of certain medications and infections. Encephalopathy can manifest itself clinically through symptoms such as mental confusion and coma. The control of encephalopathy aims to reduce the intracranial pressure that leads to coma and brain death, and this can be done with measures such as elevating the patient‘s head, orotracheal intubation with hyperventilation, use of osmotic diuretics, plasmapheresis and eventually blood transfusion.

Patients with liver disease often present with renal dysfunction. Hepatorenal syndrome may be related to toxins that are not adequately metabolized by the compromised liver and changes in renal perfusion. This syndrome manifests as oliguric renal failure. However, this condition usually resolves immediately after a liver transplant.

CONCLUSION

Patients with liver disease can safely undergo a variety of surgeries as long as there is an accurate assessment of liver function, consideration of the size of the surgery, adequate anesthesia, and rigorous post-operative care. The aim is to achieve a favorable outcome with low risks of complications and mortality.

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