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Original Article

LASER hemorrhoidal dearterialization

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ABSTRACT

Introduction: Hemorrhoidal disease is associated with the theory of arterial blood hyperflow causing swellings in hemorrhoids and, consequently, hyperplasia and venous congestion. The technique helps to promote the obliteration of the terminals of the superior rectal artery branches without the need for anesthesia by electrofulguration with diode fiber LASER. The objective of this study is to describe the results of 55 patients with hemorrhoidal disease treated by the Hemorrhoidal LASER Procedure technique.

Method: Without the need of anesthesia, terminal arterioles of the upper rectal artery are identified by a Doppler transducer (20 MHz probe 3 mm) placed on a specially designed proctoscope. After identification, it promotes arteriolar electrofulguration at 980 nm fiber laser diode, causing interruption of hemorrhoidal flow. This procedure is repeated circumferentially, following the clockwise positions.

Results: Between 2011 and 2014, 55 patients underwent the Hemorrhoidal LASER Procedure technique for hemorrhoidal disease grades I, II and III. There was no need for anesthesia and only two patients required sedation for the procedure. The overall satisfaction rate was 89%, with symptom resolution in 84% and a decrease of at least one grade in hemorrhoidal disease in 80% of cases.

Conclusion: Hemorrhoidal LASER Procedure is a painless outpatient technique that does not require anesthesia, in addition to being safe and easy to perform. It is effective in reducing symptoms and complications of the hemorrhoidal disease grades I and II, with high satisfaction rates.

Desarterialização hemorroidária a LASER

Palavras-chave:
Hemorroidas
Hemorrhoidal LASER Procedure
Desarterialização hemorroidária

RESUMO

Introdução: A doença hemorroidária está associada a teoria vascular de hiperfluxo arterial causando dilatações nos plexos hemorroidários e, consequentemente, hiperplasia e congestão venosa. A técnica HeLP promove a obliteração dos ramos terminais da artéria retal superior, sem a necessidade de anestesia, através da eletrofulguração com fibra de diiodo

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LASER.O objetivo deste trabalho é descrever os resultados de 55 pacientes com doença hemorroidária tratados pela técnica HeLP.

Método: Sem a necessidade de anestesia, as arteríolas terminais da artéria retal superior são identificadas através de um transdutor doppler (20mhz probe de 3 mm) locado em um proctoscópio especialmente desenhado. Após a identificação, promove-se a eletrofulguração arteriolar através de uma fibra de 980 nm de diiodo LASER, ocasionando interrupção do hiperfluxo hemorroidário. Este procedimento é repetido circunferencialmente, seguindo-se as posições das horas de um relógio.

Resultados: Entre 2011 e 2014, 55 pacientes foram submetidos a técnica HeLP para doença hemorroidária de graus I, II e III. Nenhum paciente utilizou anestesia e apenas dois necessitaram sedação para a realização do procedimento. O índice de satisfação global atingiu 89%, houve resolução dos sintomas em 84% e diminuição de ao menos um grau, na doença hemorroidária, em 80% dos casos.

Conclusão: HeLP é uma técnica ambulatorial e indolor, que não utiliza qualquer anestesia, é segura e fácil de ser realizada. Eficiente para reduzir sintomas e complicações da doença hemorroidária graus I e II, com índice de satisfação elevada.

Introduction

Hemorrhoidal disease affects a large part of the world's population. The prevalence in our country is not precisely documented, but in the United States it is approximately 4.4%.[1] The disease is associated with the vascular theory of arterial blood hyperflow, causing dilations in the hemorrhoidal plexuses and, consequently, venous hyperplasia and congestion.[2]

In 1995, Morinaga et al. proposed a new therapeutic method based on the etiopathogenesis described above. A Doppler (Moricorn) was used in the assessment and after the arterial flow identification, a high ligature was made in these branches, reducing the blood gradient reaching the hemorrhoidal plexus.[3] Based on this principle, several techniques that require anesthesia have been developed, such as mechanical anopexy[4] and transanal hemorrhoidal dearterialization (THD).[2,5]

In search for a surgical technique for hemorrhoidal disease with less postoperative pain, Salfi et al., in 2009, described the Hemorrhoidal LASER Procedure (HeLP) technique. It is a minimally-invasive technique, which does not require anesthesia, and consists in the identification of the terminal branches of the rectal artery through a Doppler located in a specially adapted proctoscope, followed by photocoagulation of these branches using a 980 nm LASER diode fiber.[6,7]

This publication aims to describe the first 55 cases in which the HeLP technique was used in Brazil. A three-year follow-up was carried out, analyzing clinical and functional aspects of patients operated by the same surgical team, evaluating pre- and postoperative symptoms, characteristics of the studied population, description of the technique used, need for anesthesia for the procedure and the overall satisfaction index related to the technique.

Materials and method

Between 2011 and 2014, 55 patients were submitted to the HeLP technique, by the same surgeon, for hemorrhoidal disease grades I and II, or grade III with little mucosal prolapse. Grade IV or grade III hemorrhoids with large mucosal prolapse identified during outpatient proctologic examination were excluded from the study. Data were prospectively collected and analyzed.

Before undergoing the surgical procedure, the patients were submitted to colonoscopy or rectosigmoidoscopy to exclude other possible causes of bleeding.

The patients signed the free and informed consent, which explained about the procedure to be performed. The patients were evaluated on days 7, 30, 90, 120 and 180 postoperatively. The visual analog scale (VAS) of pain was applied two hours after surgery in all patients and a retrograde questionnaire was applied on the day 7 postoperatively. Anoscopy was performed to evaluate hemorrhoidal nipples after 30 days postoperatively. Quality of life assessment was questioned after the third postoperative month. Control Doppler evaluation was performed in all patients, after 120 days, postoperatively.

HeLP technique

The patient is placed in the lithotomy position, without the need for any type of anesthesia. Only two cases required analgesia, per the patients' request. Antibiotic prophylaxis with cefazolin was used in all cases.

A proctoscope that was specially designed for the HeLP technique is placed in the patient's distal rectum. The terminal branches of the superior rectal artery are identified at 3 cm from the pectinate line through a Doppler transducer (20 MHz, 3-mm probe) located in a small working window drawn on the proctoscope (Fig. 1).

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