



Original article

Does Gastric Conditioning Decrease the Incidence of Cervical Oesophagogastric Anastomotic Leakage? ☆

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ARTICLE INFO

Article history:

Received 29 June 2017

Accepted 8 November 2017

Keywords:

Ischemic preconditioning

Anastomotic leakage

Arteriography

A B S T R A C T

Introduction: Oesophageal reconstruction by gastroplasty with cervical anastomosis has a higher incidence of dehiscence. The aim of the study is to analyze the incidence of anastomotic leakage in patients undergoing gastroplasty with cervical anastomosis following angiographic ischemic conditioning of the gastric conduit.

Methods: Prospective analysis of patients who underwent gastric conditioning two weeks prior to oesophageal reconstruction, from January 2001 to January 2014. The conditioning was performed by angiographic embolization of the left and right gastric artery, and splenic artery.

The main variable analyzed was the incidence of anastomotic leakage in patients undergoing gastroplasty with cervical anastomosis. Secondary variables analyzed were the result of the conditioning, complications arising from that procedure and in the postoperative period, and mean length of postconditioning and postoperative hospital stay.

Results: Gastric conditioning was indicated in 97 patients, with neoplasia being the most frequent etiology motivating the oesophageal reconstruction (76%). 96 procedures were successfully carried out, arterial embolization was complete in 80 (83%). The morbidity rate was 13%, with no mortality. Postoperative morbidity was 45%; the most frequent complications associated with the surgery were respiratory problems. Six (7%) patients experienced cervical fistula, and all received conservative treatment. The rate of postoperative mortality was 7%. **Conclusions:** In our series the incidence of anastomotic leakage in patients undergoing gastroplasty with cervical anastomosis following angiographic ischemic conditioning is 7%.

Angiographic ischemic conditioning is a procedure with acceptable morbidity.

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☆ Please cite this article as: Miró M, Farran L, Estremiana F, Miquel J, Escalante E, Aranda H, et al. ¿Puede el acondicionamiento gástrico disminuir la incidencia de dehiscencia anastomótica esofagogastrica cervical? Cir Esp. 2018;96:102–108.

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¿Puede el acondicionamiento gástrico disminuir la incidencia de dehiscencia anastomótica esofagogástrica cervical?

RESUMEN

Palabras clave:

Acondicionamiento isquémico
Dehiscencia anastomótica
Arteriografía

Introducción: La reconstrucción esofágica mediante gastroplastia con anastomosis cervical es una técnica una mayor dehiscencia anastomótica remarcable. El objetivo de este estudio es analizar la incidencia de dehiscencia anastomótica en pacientes sometidos a gastroplastia con anastomosis cervical tras acondicionamiento isquémico angiográfico del tubo gástrico.

Métodos: Análisis prospectivo de pacientes que se sometieron a acondicionamiento gástrico 2 semanas antes de la reconstrucción esofágica, desde enero de 2001 hasta enero de 2014.

El acondicionamiento se realizó mediante embolización angiográfica de las arterias gástricas izquierda y derecha, y la arteria esplénica.

La variable principal analizada fue la incidencia de dehiscencia anastomótica en pacientes sometidos a gastroplastia con anastomosis cervical.

Las variables secundarias analizadas fueron el éxito del acondicionamiento, las complicaciones tras este procedimiento y postoperatorias, y la duración media de la estancia hospitalaria postacondicionamiento.

Resultados: El acondicionamiento gástrico se indicó en 97 pacientes, siendo la neoplasia la etiología más frecuente que motivó la reconstrucción esofágica (76%). Se realizaron 96 procedimientos con éxito, la embolización arterial fue completa en 80 (83%). La morbilidad fue del 13%, sin mortalidad. La morbilidad postoperatoria fue del 45%; las complicaciones más frecuentes asociadas a la cirugía fueron los respiratorios. Seis (7%) pacientes presentaron fístula cervical y todos tratados de forma conservadora. La mortalidad postoperatoria fue del 7%.

Conclusiones: En nuestra serie, la incidencia de dehiscencia anastomótica en pacientes sometidos a gastroplastia con anastomosis cervical tras acondicionamiento isquémico angiográfico es del 7%. El acondicionamiento isquémico angiográfico es un procedimiento con una morbilidad aceptable.

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Introduction

Oesophageal reconstruction via gastroplasty with thoracic or cervical anastomosis has a higher incidence of dehiscence (wound rupture) than other types of anastomoses of the gastrointestinal tract, due to the considerable risk of ischemia associated with gastroplasties.¹⁻⁴ Ischemic conditioning of the gastric conduit is a therapy preceding the creation of the gastric tube that aims to prevent this eventuality.

In 1996 and 1998, Akiyama et al. were the first to publish results reporting their work on arteriographic embolization of the left gastric artery (LGA), right gastric artery (RGA) and splenic artery (SA) as a method of gastric conditioning prior to gastroplasty.^{5,6} The results obtained showed a smaller reduction in tissue blood flow from baseline (33%) and a lower incidence of anastomotic leakage (2%) compared to the control group, at 67% and 8%, respectively. Later, in 1999, Isomura et al. published their results on a series of 34 patients with cervical or thoracic gastroplasty with prior angiographic conditioning.⁷ As with Akiyama's group,⁶ they observed a smaller reduction in tissue blood flow during the construction of the gastric tube, at 27.5% compared to the 68.9% reduction observed in the control group ($P < .005$), with an anastomotic leakage rate of 2.9%.

Since 2006, some authors have advocated laparoscopic gastric conditioning,⁸⁻¹⁷ the longest series being that of

Schröder 419 patients. Nevertheless this approach has some disadvantages: the need for general anesthesia and two surgical procedures, and a possible lower efficacy compared to the arteriographic one, as a recent meta-analysis¹⁸ points out, probably influenced by the waiting time from the conditioning to the surgery is less.

Actually there is a debate about the benefit of ischemic conditioning. In a recent publication,¹⁹ its general recommendation is questioned, recommending it only in selected cases with high risk of dehiscence (aortic calcification, hypertension, renal failure).

The present study is the series published with the highest number of patients arteriographically embolized, being able to provide information about the success of this technique, its morbidity and incidence of cervical anastomotic leakage.

The aim of the present study is to analyze the incidence of anastomotic leakage in patients undergoing gastroplasty with cervical anastomosis following angiographic ischemic conditioning of the gastric conduit.

Material and Methods

Study Design

We conducted a retrospective analysis of prospective database of all patients referred for arteriographic gastric conditioning

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