



Experimental study and clinical application of retrograde liberated highly selective vagotomy for the treatment of duodenal ulcer

Dao-Da Chen, Xiao-Ming Lu, Wei You, Jian-Ying Chen, Zhi-Yi Luo, Jian-Hua Liu

Dao-Da Chen, Xiao-Ming Lu, Wei You, Jian-Ying Chen, Zhi-Yi Luo, Jian-Hua Liu, Department of General Surgery, Union Hospital, Tongji Medical University, Wuhan 430022, Hubei Province, China

Author contributions: All authors contributed equally to the work.

Correspondence to: Dr. Dao-Da Chen, Department of General Surgery, Union Hospital, Tongji Medical University, Wuhan 430022, Hubei Province, China. chen_daoda@hotmail.com
Telephone: +86-27-85726494

Received: May 6, 2000
Revised: June 10, 2000
Accepted: July 10, 2000
Published online: September 15, 2000

Abstract

AIM: We introduce a new highly selective vagotomy (HSV) procedure which can completely destroy any existing variant vagal fibers innervating the proximal stomach.

METHODS: Twenty eight dogs were divided into three groups: group A had retrograde liberated highly selective vagotomy (RLHSV), group B had traditional HSV and group C as control group. Gastric acid secretion function was tested and gastric parasympathetic and sympathetic enervation were studied by retrograde tracing the horseradish peroxidase (HRP) or by histochemical staining. After being convinced that the modified procedure was an easier and more effective HSV on animal model, we applied the technique to the treatment of duodenal ulcers in 100 patients.

RESULTS: Significant decrease of acid secretion was found in operated dogs in both group A and B. After injection of HRP subserously into the fundus and body, no HRP positive cells were found in the vagal dorsal nucleus in group A and B but were in group C. When HRP was injected into the antrum, HRP stained cells were found in dorsal nucleus in all three groups. The negative histochemical staining of AchE and the positive fluorescence in the fundus and body in group A and B indicate that parasympathetic nerve fibers were destroyed completely while norepinephrinergic nerve fibers were intact. When the operation was applied to patients, no severe complications or operative mortality occurred. Patients were followed up for 6-84 mo. They all had complete gastric emptying function. Ninety four patients were graded as Visick I or II. Six as Visick III and IV. Eighty patients had been followed up with gastroscopy for two years after operation. Four patients had recurrent ulcers. Among them two patients were asymptomatic and the other two had symptoms and were treated with partial gastrectomy.

CONCLUSION: Compared to the classic HSV, our modified procedure is more effective clinically and convenient technically.

Key words: Vagotomy, Proximal gastric; Duodenal ulcer/therapy; Horseradish peroxidase; Gastroscopy; Follow-up studies

© The Author(s) 2000. Published by Baishideng Publishing Group Inc. All rights reserved.

Chen DD, Lu XM, You W, Chen JY, Luo ZY, Liu JH. Experimental study and clinical application of retrograde liberated highly selective vagotomy for the treatment of duodenal ulcer. *World J Gastroenterol* 2000; 6(Suppl3): 134
Available from: URL: <http://www.wjgnet.com/1007-9327/full/v6/iSuppl3/134.htm> DOI: <http://dx.doi.org/10.3748/wjg.v6.iSuppl3.134>

E- Editor: Zhang FF



Published by **Baishideng Publishing Group Inc**

8226 Regency Drive, Pleasanton, CA 94588, USA

Telephone: +1-925-223-8242

Fax: +1-925-223-8243

E-mail: bpgoffice@wjgnet.com

Help Desk: <http://www.wjgnet.com/esps/helpdesk.aspx>

<http://www.wjgnet.com>

