

Anatomical considerations for transanal minimal-invasive surgery: the caudal to cephalic approach

Felix Aigner, Romed Hörmann, Helga Fritsch, Johann Pratschke, André D'Hoore, Erich Brenner, Norman Williams, Matthias Biebl, The TAMIS TME Collaboration Group, Helmut Weiss, Friedrich Herbst, Yves Panis, Walter Brunner, Salvador Morales-Conde, Ricardo Zorron, Pierpaolo Sileri, Luigi Boni, Eelco Jr De Graaf, Roland Scherer, Andreas Shamiyeh, Alexander Klaus, Cyrus Tse & Reinhard Mittermair

AIM

Nerve sparing surgery during laparoscopic rectal mobilization is still limited by anatomical constraints such as obesity, the narrowness of the male pelvis or an ultra low rectal cancer or all of these. The transanal approach for total mesorectal excision has overcome the shortcomings of limited access to the rectal "no-man's land" close to the pelvic floor. The aim of this anatomical study was to define a roadmap of anatomical landmarks for the caudal to cephalic approach so as to standardize nerve sparing rectal mobilization procedures.

METHOD

Macroscopic dissections of the pelvis in a caudal to cephalic direction were performed in eight alcohol-glycerol embalmed cadavers. A roadmap of anatomical landmarks was created at different levels of section to demonstrate the sites of nerve injury.

RESULTS

Extrinsic autonomic nerves to the urogenital organs and the internal sphincter muscle are closely adjacent to the lowest portion of the rectum above the pelvic diaphragm.

CONCLUSION

This anatomical guide for the pelvic surgeon should facilitate a safe and nerve-sparing dissection of the mesorectal plane with a meticulous overview of the lowest autonomic nerve fibres. New anatomical insights by a "caudal to cephalic" approach to the "no-man's land" should help overcome anatomical constraints of a narrow, obese and male pelvis during rectal mobilization procedures. This article is protected by copyright. All rights reserved.

Kantonsspital
St.Gallen



type	journal paper/review (English)
date of publishing	2-2015
journal title	Colorectal Dis (17/2)
ISSN electronic	1463-1318
pages	047-053