

# Histopathology and Physiological Alterations After Procedure for Prolapsed Hemorrhoids

Do Sun Kim

Department of Surgery, Daehang Hospital, Seoul, Korea

See Article on Page 198-204

Since the introduction of procedure for prolapsed hemorrhoids (PPH) into the treatment of hemorrhoids, PPH has been accepted as a standard treatment that can replace the conventional hemorrhoidectomy. However, some safety concerns were raised during the early period of its introduction into clinical practice. One of the concerns was the presence of smooth muscle in the resected specimen. The clinical importance of smooth muscle tissue in the specimen is possible injury to the internal sphincter and deterioration in continence. Even striated muscles have been reported in PPH specimens [1, 2]. These findings mean that the rectal wall or internal sphincters, as well as external sphincters, may be damaged during PPH.

Many researchers have focused on the above issue and have tried to determine if this histological finding has any clinical significance for the postoperative functional outcome. The incidence of smooth muscle being observed in specimens after PPH ranged from 20% to 100% [3-5] while no significant manometric changes or deterioration in continence was observed. To date, the clinical significance of the smooth muscle in the PPH specimen is still not clear. Some authors have tried to correlate the amount of the smooth muscle in the PPH specimen to a decrease in manometric results [1]. However, a decrease in the resting pressure is observed not only after a PPH but also after a conventional hemorrhoidectomy [6]. Also, the presence of smooth muscles in the PPH specimen does not always mean an injury to the internal sphincter. Currently, it is impossible to differentiate the smooth muscles of rectum from the internal sphincter. It is more probable that the rectal proper mus-

cle, rather than the internal sphincter, may be injured during a PPH because it is recommended to perform the procedure two to five centimeters above the dentate line [7]. If the staple line is at the level of the dentate line and the specimen involves smooth muscle, one can conclude that an injury to the internal sphincter happened during the PPH. However, there was no change in continence, not even in cases where an injury to the internal sphincter was highly suspected because the smooth muscles had been resected from the anal sphincter region. On the other hand, there have been reports that these inadvertent histological findings may be a cause of pain, tenesmus, or fecal urgency [8].

Although the PPH is devised to remove mucosa and submucosa, smooth muscle in PPH specimens is a frequently-observed finding whose clinical significance is unclear. However, any injury to the continuity of the bowel or sphincter mechanism may lead to serious complications, such as retroperitoneal abscess, dehiscence, or deterioration of continence. Therefore, taking care not to injure the internal sphincter or the rectum so as to prevent unexpected serious complications is reasonable.

## REFERENCES

1. Hong YK, Choi YJ, Kang JG. Correlation of histopathology with anorectal manometry following stapled hemorrhoidopexy. *Ann Coloproctol* 2013;29:198-204.
2. Ohana G, Myslovaty B, Ariche A, Dreznik Z, Koren R, Rath-Wolfson L. Mid-term results of stapled hemorrhoidopexy for third- and fourth-degree hemorrhoids: correlation with the histological features of the resected tissue. *World J Surg* 2007;31:1336-42.
3. Hetzer FH, Demartines N, Handschin AE, Clavien PA. Stapled vs excision hemorrhoidectomy: long-term results of a prospective randomized trial. *Arch Surg* 2002;137:337-40.
4. Kam MH, Mathur P, Peng XH, Seow-Choen F, Chew IW, Kumarasinghe MP. Correlation of histology with anorectal function following stapled hemorrhoidectomy. *Dis Colon Rectum* 2005;48:1437-41.
5. Ho YH, Cheong WK, Tsang C, Ho J, Eu KW, Tang CL, et al. Stapled hemorrhoidectomy: cost and effectiveness. *Randomized,*

Correspondence to: Do Sun Kim, M.D.

Department of Surgery, Daehang Hospital, 2151 Nambusunhwan-ro, Seocho-gu, Seoul 137-230, Korea

Tel: +82-2-6388-8114, Fax: +82-2-6388-8673

E-mail: dskim1@daehang.com

© 2013 The Korean Society of Coloproctology

This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

- controlled trial including incontinence scoring, anorectal manometry, and endoanal ultrasound assessments at up to three months. *Dis Colon Rectum* 2000;43:1666-75.
6. Vyslouzil K, Zboril P, Skalicky P, Vomackova K. Effect of hemorrhoidectomy on anorectal physiology. *Int J Colorectal Dis* 2010; 25:259-65.
  7. Altomare DE, Rinaldi M, Sallustio PL, Martino P, De Fazio M, Memeo V. Long-term effects of stapled haemorrhoidectomy on internal anal function and sensitivity. *Br J Surg* 2001;88:1487-91.
  8. Cheetham MJ, Mortensen NJ, Nystrom PO, Kamm MA, Phillips RK. Persistent pain and faecal urgency after stapled haemorrhoidectomy. *Lancet* 2000;356:730-3.