

Case Analysis

Is Routine Pathological Evaluation of Surgical Specimens of Hemorrhoidectomy Necessary?

Ming-Hung Shen¹
Yao-Ying Huang¹
Henry Hsin-Chung Lee^{1,2}
Shih-Hung Huang³
Shih-Chang Chang¹

¹Department of Colorectal Surgery, Division of Surgery, Cathay General Hospital,

²School of Medicine, Fu Jen Catholic University,

³Department of Pathology, Cathay General Hospital, Taipei, Taiwan

Key Words

Hemorrhoidectomy specimens;
Histopathologic evaluation

Purpose. The purpose of this study was to evaluate whether routine pathological examination of hemorrhoidectomy specimens is necessary.

Patients and Methods. The Taipei Cathay General Hospital histopathologic database between January 2006 and December 2010 was mined with the key word "hemorrhoidectomy". The histopathologic reports of patients who had received concomitant anal surgery, such as fistulotomy at the same time were excluded. We found that 917 patients had only a preoperative diagnosis of hemorrhoid and received only a hemorrhoidectomy. The incidence of unexpected pathologic findings were analyzed and evaluated.

Results. There were 6 histopathologic abnormalities (0.65%) among the 917 hemorrhoidectomy specimens. There were 2 cases of focal mild squamous dysplasia (0.21%), 1 case of squamous cell carcinoma in situ (0.11%), 1 case of condyloma accumulata (0.11%), 1 case of adenocarcinoma in situ (0.11%), and 1 case of inflammatory cloacogenic polyp (0.11%). All 6 patients did not receive further surgical management.

Conclusion. Routine histopathologic evaluation of hemorrhoidectomy specimens appears unnecessary and costly from the perspective of a colorectal surgeon, as only 0.65% of specimens harbor occult pathology. We recommend selective histopathologic examination for hemorrhoidectomy specimens that exhibit gross suspicious appearance other than that of hemorrhoids at preoperative examination. However, the law in Taiwan requires that all specimens obtained from patients be sent for histopathologic examination.

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Histopathologic evaluation of surgical specimens can enable definitive diagnosis and is helpful in decision making. However, if surgeons were to send all surgical specimens for pathological examination, the workload of the relatively small number of pathologists could increase.¹ Consequently, the value of routine examination of all surgical samples has been questioned.²

In 1996, the College of American Pathologists

recommended selective histopathologic examination for some surgical specimens (such as dental material, hernia sac and non-suspect placenta) rather than routine evaluation.³ Recent evidence has revealed that routine histopathologic examination is not necessary for some surgical samples such as hernia sac, appendix, gallbladder and intervertebral discs of the spine if there were no atypical, suspicious findings during macroscopic examination.^{2,4-6}

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Correspondence to: Dr. Shih-Chang Chang, Department of Colorectal Surgery, Division of Surgery, Cathay General Hospital, No. 280, Section 4, Jen-Ai Road, Taipei, Taiwan. Tel: +886-2-2708-2121; Fax: +886-2-2709-2063; E-mail: samson1319@gmail.com

A hemorrhoidectomy is the most common procedure in colorectal surgery and may account for more than 50% of proctologists' surgical activity in Cathay General Hospital. Routine evaluation of hemorrhoidectomy specimens may result in increased workloads for pathologists and possibly unnecessary costs to the health care system. The aim of the present article was a retrospective study of the pathological examination results of hemorrhoidectomy specimens at Cathay General Hospital with possible unexpected findings from 2006 to 2010.

Patients and Methods

This was a retrospective study of hemorrhoidectomy specimens obtained in Cathay General Hospital from January 2006 to December 2010. The Taipei Cathay General Hospital histopathology database was mined with the keyword "hemorrhoidectomy". Pathology reports and operative notes were reviewed. Patients receiving pre- and post-operative surgical diagnosis (i.e., fistula ani, condyloma accumulata) other than for hemorrhoids were excluded. Hemorrhoids, hypertrophied anal papillae, thrombus formation, and ulcers were defined as possible expected pathological findings associated with hemorrhoidal disease. All other findings were defined as unexpected pathological findings.

The medical records of patients with unexpected pathological findings were reviewed to obtain information on further post-operative management and outcomes during the follow-up period.

Results

We recorded 1,433 patients with hemorrhoidec-

tomy in the Taipei Cathay General Hospital histopathologic database during the study period. We included 917 hemorrhoidectomy patients in the study.

Pathological examination of these hemorrhoidectomy specimens revealed only 6 instances (0.65%) of unexpected findings including, which comprised focal mild squamous dysplasia (N = 2, 0.21%), squamous cell carcinoma in situ (N = 1, 0.11%), condyloma accumulata (N = 1, 0.11%), adenocarcinoma in situ (N = 1, 0.11%), and inflammatory cloacogenic polyp (N = 1, 0.11%). (Table 1)

Mild squamous dysplasia was detected in 2 cases (0.21%). Both of them were male, aged 27 and 57-years, and had undergone a Milligan-Morgan hemorrhoidectomy. Their pathological specimens exhibited free surgical margins. No further operation for mild squamous dysplasia was indicated. There was no recurrence during the follow-up period (6-48 months).

One case (0.11%) of squamous cell carcinoma in situ was diagnosed after Milligan-Morgan hemorrhoidectomy. One case (0.11%) of adenocarcinoma in situ was noted after receiving circumferential hemorrhoidectomy. Both had free surgical margins, neither received further surgery and they were followed-up regularly. Neither experienced recurrence during the post-operative period of 20-34 months.

None of these unexpected pathological findings altered the patients' post-operative management.

Discussion

Unexpected pathological findings of hemorrhoidectomy specimens are rare. The incidence varies with different series. Some authors prefer routine examination of hemorrhoidectomy specimens. Grodsky et al. reported 7 cases (1.9%) of incidental detection of

Table 1. Details of unexpected pathologic findings from 917 hemorrhoidectomy specimens

| Pathologic diagnosis | Patient age | Patient gender | No. |
|---------------------------------|-------------|----------------|-----------|
| Focal mild squamous dysplasia | 27, 57 | Male | 2 (0.21%) |
| Squamous cell carcinoma in situ | 59 | Female | 1 (0.11%) |
| Condyloma accumulata | 41 | Male | 1 (0.11%) |
| Adenocarcinoma in situ | 68 | Female | 1 (0.11%) |
| Inflammatory cloacogenic polyp | 49 | Female | 1 (0.11%) |
| Total | | | 6 (0.65%) |

neoplasia among 526 hemorrhoidectomies over a 10-year period with favorable outcomes. The authors suggested that all surgical samples of the anal canal should be evaluated.⁷ Christensen and Solstad reported 1 case of adenocarcinoma from 431 hemorrhoidectomy specimens obtained between 1973 and 1981. They believed that histological analysis of all hemorrhoidectomy specimens is necessary.⁸

Other authors have advocated selective pathological examination for specimens with doubtful gross aspects. Cataldo and MacKeigan reported 3 cases of malignant disease among 21,257 hemorrhoidectomy specimens over a 20-year period in Ferguson Hospital. Only 1 case was unexpected carcinoma of anus (0.0046%) exhibiting normal gross appearance. The other 2 cases were detected upon gross examination. Hemorrhoidectomy was the definitive management for all 3 patients. They recommended selective pathological analysis of hemorrhoidectomy specimens with gross abnormal appearance.⁹

Timaran et al. reported 1 case of anal canal adenocarcinoma with normal gross appearance. There was no complementary treatment for this patient and no recurrence after 2 years. The authors recommended pathological examination for doubtful cases.¹⁰

Matthyssens et al. recorded 3 malignancies out of 311 hemorrhoidectomy specimens obtained between 1993 and 2002. All the malignancies had a suspicious macroscopic appearance. The authors did not favor routine pathological examination in the absence of macroscopic abnormalities. They emphasized pre-operative examination rather than routine pathological examination.²

Nicolas et al. uncovered 56 histological abnormalities (0.69%) among 8,123 hemorrhoidectomy specimens that had been considered normal at gross examination. There were 3 cases of intraepithelial neoplasia of the anal canal (0.04%) and 4 cases of severe dysplasia (0.05%). There was no recurrence in these 7 patients after the initial hemorrhoidectomy.¹¹ Varut et al. collected 914 hemorrhoidectomy specimens. Of these, 13 (1.42%) exhibited histologic abnormalities other than the expected lesions. None of these incidental findings altered post-operative management.⁵

Among our patients, we recorded 2 cases of focal

mild squamous dysplasia (0.21%), 1 case of squamous cell carcinoma in situ (0.11%), and 1 case of adenocarcinoma in situ (0.11%). All of them received no further surgery and there was no recurrence at follow-up.

In Taiwan, reimbursement from the Bureau of National Health Insurance for pathologic examination of a hemorrhoidectomy specimen is NT\$ 1,014 (Bureau of National Health Insurance schedule, code 25003C). The total reimbursement for our 5-year routine analysis of hemorrhoidectomy specimens was NT\$ 929,838. On average, the cost per pre-cancerous lesion was NT\$ 464,919, since only 2 were detected; it appears that routine pathological examination of hemorrhoidectomy specimens is not cost-effective. The law in Taiwan requires that all specimens be sent for pathological examination.

As required by law, we continue to request routine pathological examination of all hemorrhoidectomy specimens at Cathay General Hospital even though our retrospective review, as have other reports, affirmed that routine pathological evaluation of hemorrhoidectomy specimens is not necessary.

Conclusion

Routine histopathologic evaluations of hemorrhoidectomy specimens are neither useful nor cost-effective. Hemorrhoidectomy is adequate surgery for patients with unexpected pathologic findings of hemorrhoidectomy specimens that exhibit gross normal appearance in the pre-operative examination. Therefore, we recommend selective histopathologic examination for hemorrhoidectomy specimens that exhibit gross suspicious appearance at pre-operative examination. This attitude may be accepted in Taiwan if there is no legal context regarding medical responsibilities in the future.

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病例分析

痔瘡切除術後檢體須常規性的送病理化驗嗎？

沈明宏¹ 黃耀瑩¹ 李興中^{1,2} 黃世鴻³ 張世昌¹

¹國泰綜合醫院 外科部 大腸直腸外科

²天主教輔仁大學醫學院 醫學系

³國泰綜合醫院 病理科

目的 本篇研究主要探討痔瘡切除後檢體常規性的送病理化驗的必要性。

病患和方法 本研究採用台北國泰綜合醫院，於 2006 年 1 月至 2010 年 12 月期間，痔瘡手術的組織病理資料庫。經篩選過後排除那些進行其他肛門手術的病患，例如同時進行肛門瘻管切開術的病患。並評估與預期不符的病理結果之發生率。

結果 我們發現在 917 個痔瘡手術中，總共有 6 個手術中肉眼看為痔瘡的案例最後結果為組織病理異常（占了百分之 0.65）。其中 2 例為局部性的扁平細胞異常（占了百分之 0.21），1 例為扁平細胞原位癌（占了百分之 0.11），1 例為尖性濕疣（占了百分之 0.11），1 例為腺細胞原位癌（占了百分之 0.11），以及 1 例發炎性腸胃道息肉（占了百分之 0.11）。這 6 位病患皆於術後無需接受任何後續處理。

結論 痔瘡手術後檢體常規性的送病理化驗，並不是絕對需要。我們建議可以選擇性的對於在術前外觀上有所懷疑的標本進行病理組織檢驗即可。但是在台灣，中華民國醫師法明定所有病人身上取下之手術檢體皆須送病理檢驗。而醫療是否浪費則不是法律問題。

關鍵詞 痔瘡手術檢體、組織病理化驗。