

3-1-2006

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### Recommended Citation

Pattana-Arun, j.; Sribunchareonchai, S.; Tantiphlachiva, K.; Cherduriya, V.; Sahakijrungruang, C.; and Rojanasakul, A. (2006) "Urgent vs. elective closed hemorrhoidectomy:A comparison of postoperative complications," *Chulalongkorn Medical Journal*: Vol. 50: Iss. 3, Article 2.

Available at: <https://digital.car.chula.ac.th/clmjjournal/vol50/iss3/2>

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## Urgent vs. elective closed hemorrhoidectomy:A comparison of postoperative complications

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## Urgent vs. elective closed hemorrhoidectomy : A comparison of postoperative complications

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**Pattana-Arun J, Sribunchareonchai S, Tantiplachiva K, Cherdsuriya V, Sahakijrungruang C, Rojanasakul A. Urgent vs. elective closed hemorrhoidectomy : A comparison of postoperative complications. Chula Med J 2006 Mar; 50(3): 157 - 64**

**Purpose** : *To compare postoperative complications between urgent and elective closed hemorrhoidectomy in the following aspects : bleeding, wound infection, thrombosis and minor or major wound dehiscence.*

**Research design** : *Retrospective, case – control study*

**Methods** : *From June,1<sup>st</sup>,1998 to May,31<sup>st</sup>, 2003, fifty-eight cases of acute prolapsed thrombosed hemorrhoid who underwent urgent hemorrhoidectomy, were retrospectively reviewed and matched with fifty-eight elective cases of hemorrhoidectomy, according to their gender, age, co-morbid diseases and the number of received hemorrhoidectomy. All were followed up at two and four weeks after the operation. Bleeding, wound infection, postoperative thrombosis and wound dehiscence were compared.*

**Statistic analysis** : *Chi's square test,  $p < 0.05$  was considered significant.*

- Results** : *There were no differences in gender, age, co-morbid diseases and number of hemorrhoidectomy between the two groups. At two weeks, the patients in the urgent group had neither bleeding nor wound infection, but one case of thrombosis (1.72 %) and seven minor perianal dehiscence (12.07 %). As for the elective group, there were one bleeding (1.72 %) that ceased spontaneously, and five minor perianal wound dehiscence (8.62 %). However, no wound infection or thrombosis was observed in this group. The statistic showed no difference between the two groups ( $p = 0.120$ ). At four weeks, no bleeding or infection were found in both groups. Regarding dehiscence, there was no new case and all wounds were completely healed.*
- Conclusion** : *This study demonstrated that there was no statistical difference in postoperative complications between urgent and elective hemorrhoidectomy, in terms of bleeding, wound infection, thrombosis and minor or major wound dehiscence. Urgent hemorrhoidectomy can be performed for prolapsed thrombosed hemorrhoids.*
- Keywords** : *Complication, Urgency, Hemorrhoidectomy, Thrombosed, Prolapsed, Hemorrhoid.*

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Received for publication. September 5, 2005.

จิรวัดน์ พัฒนะอรุณ, เสกสรร ศรีบุญเจริญชัย, กษยา ตันติผลาชีวะ, วิวัฒน์ เขตสุริยา, ชูชีพ สหกิจรุ่งเรือง, อรุณ โรจนสกุล. การศึกษาเปรียบเทียบภาวะแทรกซ้อนหลังการผ่าตัดระหว่างการผ่าตัดริดสีดวงทวารแบบปิดในภาวะฉุกเฉินและภาวะปกติ. จุฬาลงกรณ์เวชสาร 2549 มี.ค; 50(3): 157 - 64

- วัตถุประสงค์** : เพื่อเปรียบเทียบภาวะแทรกซ้อนหลังผ่าตัดการผ่าตัดริดสีดวงทวารแบบเย็บปิดระหว่างผ่าตัดฉุกเฉินและผ่าตัดแบบปกติ ในด้านภาวะเลือดออก แผลติดเชื้อ การมีลิ่มเลือดรอบทวารหนัก และแผลแยกน้อยหรือแผลแยกมาก
- รูปแบบการวิจัย** : ศึกษาย้อนหลังแบบ case-control
- วิธีการ** : ศึกษาข้อมูลผู้ป่วยริดสีดวงทวารชนิด prolapsed thrombosed ที่มีผ่าตัดฉุกเฉินระหว่างวันที่ 1 มิถุนายน 2541 ถึง 31 พฤษภาคม 2546 จำนวน 58 ราย เปรียบเทียบกับผู้ป่วยที่มาผ่าตัดริดสีดวงทวารปกติที่มีเพศ อายุ โรคประจำตัว และจำนวนหัวริดสีดวงทวารใกล้เคียงกัน โดยติดตามหลังผ่าตัดที่สัปดาห์ที่ 2 และ 4 โดยศึกษาเปรียบเทียบด้านเลือดออก แผลติดเชื้อ การเกิดลิ่มเลือดรอบทวารหนักหลังผ่าตัด และการแยกของแผล
- การวิเคราะห์ทางสถิติ** : ใช้สถิติไคสแควร์ โดยถ้อยสำคัญที่  $p < 0.05$
- ผลการศึกษา** : ไม่พบความแตกต่างด้านเพศ อายุ โรคประจำตัว และจำนวนหัวริดสีดวงทวารระหว่างสองกลุ่ม หลังผ่าตัดสองสัปดาห์ไม่พบว่ามีภาวะแทรกซ้อนเลือดออกหรือแผลติดเชื้อในกลุ่มที่ผ่าตัดฉุกเฉิน แต่พบเกิดลิ่มเลือดรอบทวารหนัก 1 ราย (1.72 %) และพบแผลแยกเล็กน้อย 7 ราย (12.07 %) สำหรับกลุ่มที่ผ่าตัดแบบปกติพบเลือดออก 1 ราย (1.72 %) ซึ่งหยุดเอง และพบแผลแยกเล็กน้อย 5 ราย (8.52 %) อย่างไรก็ตามไม่พบมีแผลติดเชื้อหรือการเกิดลิ่มเลือดรอบทวารหนัก ไม่มีความแตกต่างอย่างมีนัยสำคัญทางสถิติระหว่างสองกลุ่ม ( $p = 0.12$ ) ที่ 4 สัปดาห์หลังผ่าตัด ไม่พบว่ามีภาวะเลือดออกหรือแผลติดเชื้อในกลุ่มทั้งสอง ไม่มีผู้ป่วยที่มีแผลแยกเพิ่มขึ้น และแผลที่แยกนั้นหายโดยสมบูรณ์
- บทสรุป** : การศึกษานี้แสดงให้เห็นว่าไม่มีความแตกต่างอย่างมีนัยสำคัญทางสถิติของภาวะแทรกซ้อนหลังการผ่าตัดริดสีดวงทวารระหว่างการผ่าตัดแบบฉุกเฉินหรือแบบปกติ ในด้านภาวะเลือดออก แผลติดเชื้อ การเกิดลิ่มเลือดรอบทวารหนัก และแผลแยก การทำผ่าตัดริดสีดวงทวารแบบฉุกเฉินในผู้ป่วยริดสีดวงทวารแบบ prolapsed thrombosed จึงสามารถทำได้ถ้ามีความจำเป็น
- คำสำคัญ** : ภาวะแทรกซ้อน, การผ่าตัดริดสีดวงทวารหนักแบบฉุกเฉิน, และภาวะริดสีดวงทวารมีลิ่มเลือดอุดตัน

Prolapsed and thrombosed hemorrhoid is not the uncommon complication of hemorrhoidal disease. Although it is not a life-threatening condition, thrombosed piles are usually severe disturbance or even producing intolerable pain. The traditional treatment for the patients who suffer from this condition is hospitalization, either for conservative treatment<sup>(1,2)</sup> or urgent operation.<sup>(3,4)</sup> Some surgeons avoid urgent operation in fear of complications, namely bleeding, wound dehiscence and wound infection.<sup>(5-7)</sup> Up to now, there are few data that compare complications between urgent and elective hemorrhoidectomy.<sup>(7-9)</sup> The line of management of this condition is still controversy.

At King Chulalongkorn Memorial Hospital, we perform the closed hemorrhoidectomy under local anesthesia in both urgent and elective conditions. This study compares the complications of urgent hemorrhoidectomy for prolapsed thrombosed hemorrhoid with elective hemorrhoidectomy in a retrospective, case - control fashion.

### **Patients and Methods**

All cases of prolapsed and thrombosed hemorrhoid who underwent urgent hemorrhoidectomy, defined as hemorrhoidectomy done within twenty-four hours after admission, between June, 1<sup>st</sup>, 1998 to May, 31<sup>st</sup>, 2003 were completely reviewed from their hospital records. The data, including age, gender, co-morbid diseases, numbers of hemorrhoidectomy and complications included bleeding, wound infection, thrombosis and minor or major wound dehiscence at two and four weeks follow up, were collected. Fifty-eight patients underwent urgent hemorrhoidectomy with complete follow-up and records were eligible for study.

For the control group, patients underwent elective hemorrhoidectomy, for symptomatic grade three or four hemorrhoid with skin tag or combined hemorrhoid, during this period were matched. The exclusions criteria were patients with previous anorectal operations, rubber band ligation, sclerosing injection, bleeding tendency, pregnancy, perianal infection and HIV-infection.

### **Surgical technique**

The patient was in prone jackknife position. Local perianal anesthesia with 0.5 % xylocaine with adrenaline 40 ml (20 ml of 1 % xylocaine with adrenaline diluted in 20 ml of sterile water for injection) was gradually injected at 3, 6, 9 and 12 o'clock, 10 ml each. Shaftless Fansler's proctoscope, 3.2 cm diameter, was inserted. Hemorrhoidal tissue was excised with metzenbaum scissors, started perianally till just above hemorrhoidal plexus. Every wound was completely dried before approximation with 4-0 Vicryl Rapide<sup>®</sup> in continuous fashion. The two advantages of this technique are : 1) The internal sphincter is safe from iatrogenic injury because the large size proctoscope can stretch the sphincter from redundant hemorrhoidal cushion, let the dissection plane always superficial to it. ; 2) To provide good approximation, only the appropriate amount of hemorrhoidal tissue will be removed through this limited working channel, which can prevent dehiscence and stricture finally. All the procedures were performed by colorectal staffs or fellows.

The patients were admitted for one day after the operation. Post-operative analgesia was administered in the form of oral acetaminophen, NSAIDs or pethidine intramuscularly for severe pain.

The patients were advised to clean their wounds with shower after toileting and sitz bath was prohibited.

Our follow-up protocol was scheduled at two and four weeks after the operation. The patients underwent the rectal examination, observing perianal healing and 1 centimeter-diameter anoscope was inserted for examination of intra-anal canal healing.

### Definition

**Bleeding :** Continued bleeding with fresh clotted blood.

Post operative bleeding that requires packing, re-operation or blood transfusion.

**Infection :** Post operative local abscess, cellulitis, sepsis that requires antibiotic or surgical treatment.

**Thrombosis :** Post operative thrombosis that requires re-operation.

**Minor wound dehiscence:** Wound disruption not more than 2 mm.

**Major wound dehiscence:** Wound disruption more than 2 mm.

### Statistic analysis

Chi's square test with one degree of freedom,  $p < 0.05$  was considered significant.

### Results

Between June 1998 and May 2003, fifty-eight urgent cases of hemorrhoidectomy were recruited in this study and fifty-eight elective cases of hemorrhoidectomy during this period were matched. There were no differences regarding age, gender and numbers of hemorrhoidectomy cases in both groups.

There was one post operative bleeding in the urgent group which ceased spontaneously after admission and no blood transfusion was required. In the elective group, bleeding occurred in one case which required suturing the bleeding point. However there was no statistical significance between the two groups. No wound infection was observed in either groups. In the urgent group, there was one post-operative painful thrombosis that required re-operation because inadequate resection of a small hemorrhoid. In elective group, there were three post-operative small thromboses (5.17 %), no re-operation were needed. There was no difference between the two groups ( $X^2 = 0.26; p > 0.05$ ). We divided wound dehiscence into minor and major groups, as *minor dehiscence*, in our opinion, is caused by rapid absorption of the suture material (Vicryl Rapide<sup>®</sup>) that would disturb post operative period and *major dehiscence* is caused by too much resection and tension in the suture line. There were seven dehiscences (12.07 %) in the urgent group which were completely healed at the four-week follow up. Five minor dehiscences were found in the elective group, also healed completely at the same time. The statistic could not reach significant difference ( $X^2 = 0.92; P > 0.05$ ).

### Discussion

Prolapsed and thrombosed hemorrhoid is the suffering complication of hemorrhoidal disease. Management for this condition is, however, inconclusive. The dilemma of choice is firstly, choosing between conservative or surgical treatment; secondly, the choosing of surgical techniques (e.g. open or closed hemorrhoidectomy, under spinal anesthesia or local anesthesia etc.).

The conservative treatment had been considered as the safe option but the patients will suffer longer and may need hospitalization. Greenspon *et al.*<sup>(8)</sup> reported that the conservative group needs 24 days for the symptom to resolve but only four days for the surgical group. The recurrent rate is 25.4 % in the conservative group, compare to 6.3 % in the surgical group. Surgical treatment had been considered to have higher rate of complication. However, few comparative studies have shown that hemorrhoidectomy is safe and effective as treatment of prolapsed thrombosed hemorrhoids; and it even shortens the experience of suffering.<sup>(7,8)</sup>

Some favored opened technique (with scissors or diathermy).<sup>(7,9)</sup> In our division, we routinely

perform closed hemorrhoidectomy under local anesthesia, either in as elective or urgent operation. The technique employed for prolapsed thrombosed hemorrhoids is not different from the elective one, as some surgeons might have worried. After a peri-anal block, the tissue swelling will be able to reduce into a nearly normal anatomy, making the procedure possible. In this study, we compared the complications of the closed hemorrhoidectomy in the prolapsed and thrombosed hemorrhoids group (urgent operation) and symptomatic grade 3-4 hemorrhoids group (elective operation). The data show no significant differences between the two groups in term of bleeding, wound infection, postoperative thrombosis and wound dehiscence.

**Table 1.** Demographic data.

Patient	Urgent	Elective
	Hemorrhoidectomy	Hemorrhoidectomy
No. of patient	58	58
Mean Age (yrs.)	42.67 (20- 75)	43.02 (16- 80)
Sex (Male : Female)	38:20	30:28
Mean No. of Hemorrhoidectomy	2.00	2.17
Mean hospital stay (day)	1.57	2.1

**Table 2.** Complications of Urgent and Elective Hemorrhoidectomy.

Complication	Urgent hemorrhoidectomy		Elective hemorrhoidectomy	
	2 wks	4 wks	2 wks	4 wks
Bleeding	1 (1.72 %)	0	1 (1.72 %)	0
Wound infection	0	0	0	0
Post operative thrombosis	1 (1.72 %)	0	0	0
Wound dehiscence	7 (12.07 %)	0	5(8.62 %)	0
	(minor)		(minor)	



Our technique has its own advantages which are: easiness of dissection, prevention of sphincter injury and prevention of anal stricture. However, minor wound dehiscence which occurred in both groups was supposed to be caused by early degradation of the suture material. No major wound dehiscence was observed. Although this is a retrospective study, the demographic data of the two groups were quite comparable.

Urgent hemorrhoidectomy for prolapsed thrombosed hemorrhoids showed no difference

regarding complications (bleeding, wound infection, thrombosis, wound dehiscence) vis-a-vis elective hemorrhoidectomy for symptomatic grade three or four hemorrhoid with skin tag or combined hemorrhoids.

### Conclusion

Urgent hemorrhoidectomy with closed technique can be performed for prolapsed thrombosed hemorrhoids, with no difference in complication from elective operation.



Figure 1. Prolapsed thrombosed hemorrhoid.

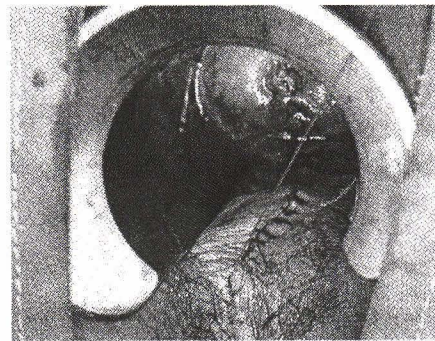


Figure 2. Closed Hemorrhoidectomy wound.



Figure 3. Wound dehiscence.

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