

Ambulatory Anorectal Surgery under Perianal Anesthetics Infiltration: Analysis of 222 Cases

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Objective: To assess the safety and early postoperative results of ambulatory anorectal surgery using perianal anesthetics infiltration.

Material and Method: This retrospective study included 222 elective ambulatory anorectal surgical patients under perianal anesthetics infiltration between March 2002 and September 2005. Perioperative pain, postoperative complications, and surgical outcomes were analyzed.

Results: The patients were 122 males and 100 females aged 16-84 (mean 43) years undergoing 150 closed hemorrhoidectomies, 55 lateral internal anal sphincterotomies, 28 fistulotomies, and 3 cauterizations for condyloma acuminata. Perianal block was effective, neither intravenous analgesics nor conversion to general anesthesia was needed. The average pain score was 3.4 ± 2.3 on day 1 and 1.2 ± 1.5 on day 7 postoperatively. Urinary retention was found in one case (0.5 %). None of the patients needed hospital admission, except one emergency hospitalization (0.5 %) due to bleeding.

Conclusion: Perianal anesthetics infiltration allows the surgeons to perform anorectal surgery in a day-case regimen safely and effectively with a low incidence of urinary retention.

Keywords: Ambulatory surgery, Anorectal disease, Perianal anesthetics infiltration

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Anorectal disease is one of the most common problems in ambulatory surgery. Surgery is the best therapy for chronic anal fissure, fistula *in ano*, third and fourth degree hemorrhoids⁽¹⁾. Since most patients are anxious about pain during and after the surgery, adequate pain control is the key success factor in all surgical settings including the ambulatory anorectal surgery. The authors reported an excellent result of ambulatory hemorrhoidectomy under perianal anesthetics infiltration in 55 patients, especially in terms of pain control and postoperative complications⁽²⁾. Therefore, the authors applied their technique of perianal anesthetics infiltration into other ambulatory anorectal procedures. The purpose of the present study was to report the outcome of ambulatory anorectal procedures under perianal anesthetics infiltration.

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Material and Method

After approval from the Siriraj Ethics Committee, a retrospective study was performed at the Department of Surgery, Siriraj Hospital, Bangkok, Thailand that involved 222 ASA status I- III patients, 16-84 years of age, with anorectal diseases, between March 2002 and September 2005. The anorectal diseases included third or fourth-degree internal hemorrhoids, chronic anal fissure, low-type fistula *in ano* and perianal or anal condyloma acuminata. All were scheduled for surgery under perianal anesthetics infiltration. Exclusion criteria included allergy or hypersensitivity to local anesthetic agent, consent refusal, antiplatelet drug or anticoagulant usage, immunocompromised host, concurrent anal stricture, previous anorectal surgery, and acute complicated conditions such as acute thrombosed hemorrhoid or abscess formation. Each patient gave their medical history and obtained a thorough physical examination including proctoscopy. There were no additional investigations done unless specifi-

cally indicated by the medical history and physical examination. All patients gave written informed consent.

The operations consisted of closed hemorrhoidectomy (Ferguson technique)⁽³⁾ for internal hemorrhoids, lateral internal anal sphincterotomy (closed technique)⁽⁴⁾ for chronic anal fissure, fistulotomy for low-type fistula *in ano*, and cauterization for condyloma acuminata.

The patients were operated on by one of the authors using a uniform method. There was nothing by mouth for 6 hours, no enema, no prophylactic antibiotics, no pre-emptive intravenous narcotics, nor any pre-operative laboratory or manometric studies. The operation was carried out in an ambulatory facility of the Department of Surgery, Siriraj Hospital, Bangkok, Thailand. At the operating bed, each patient was set on a prone jackknife position. Blood pressure, heart rate, and hemoglobin oxygen saturation values were recorded at 5-min intervals throughout the operation. A local anesthetic mixture was prepared using 20 ml of 0.5% bupivacaine and 10 ml of 2% lidocaine with adrenaline 1:10,000. A 20-25 ml-aliquot of this solution was infiltrated by the surgeon into the left and right anterolateral aspects of the perianal region, 1-1.5 cm from the anal verge. Direction of the injection was parallel to the lower portion of the anal canal. The remaining solution (5-10 ml) was infiltrated into submucosal area beneath the internal hemorrhoids or fistulous tract before performing surgery. The surgical procedure was performed depending on the type of lesions. After completing the operation, a small dressing was applied following cleansing of the wound. No rectal packing was needed. All specimens were sent for histopathologic examination.

Routine postoperative care was provided to each patient. This consisted of a warm sitz bath, oral paracetamol, selective cyclo-oxygenase-2 inhibitor for pain, and mild laxative before bedtime. Questionnaires

evaluating postoperative pain with urination and defecation record were filled up by the patients themselves using visual analog scale (VAS, 0 = no pain, 10 = the worst pain) in the first week after the operation. All patients were scheduled for follow-up at 1 and 6 weeks postoperatively. Descriptive statistic i.e. number, percent, mean \pm SD and range were presented.

Results

This retrospective study was conducted in a series of 222 ASA status I - III patients, 16-84 years of age (mean = 42.5 ± 13.3 years). There were 122 males and 100 females. The different surgical procedures on an outpatient basis are listed in Table 1. Mean operative time was 20.1 ± 9.2 (range 5-60) minutes. Neither administration of intravenous analgesic drug nor conversion to general anesthesia was required. No local or systemic complications related to the local anesthetic occurred.

During the procedure, the vagal reaction was minimal and sporadic. In nine patients (4.1%) a transient reduction of blood pressure and heart rate was noted during the operations; normalization of the parameters was obtained shortly after the infiltration of additional anesthetic solution at the surgical site.

The patients started to experience pain at 5.1 ± 6.6 (range 0.5-48) hours postoperatively. Most of the patients (65%) reported no pain at all for the first four hours. In addition, 17 patients (7.7%) had no pain at all. The average pain score on the day after the surgery was 3.4 ± 2.3 (range 0-8) and gradually reduced to 1.2 ± 1.5 (range 0-8) in one week postoperatively.

The patients urinated in 2.4 ± 2.1 (range 0.5-6) hours postoperatively. Voiding without difficulty was observed in 179 patients (80.6%). Mild dysuria in the first few days was found in 42 patients (18.9%) and subsided spontaneously. Postoperative urinary reten-

Table 1. The surgical procedures in 222 patients

Surgical procedure	Number of cases (%)
Single hemorrhoidectomy	84 (37.8)
Double hemorrhoidectomy	40 (18.0)
Triple hemorrhoidectomy	12 (5.4)
Lateral internal anal sphincterotomy	41 (18.5)
Fistulotomy	28 (12.6)
Cauterization for condyloma acuminata	3 (1.4)
Combined hemorrhoidectomy and lateral internal anal sphincterotomy	14 (6.3)

tion that required single catheterization was found in only one case (0.5%). The patients could pass their stool in 1.2 ± 0.7 (range 0-4) days postoperatively.

All patients needed no hospital admission after the operation. Emergency hospitalization occurred in one case (0.5%) because of bleeding (postoperative day 10) that required surgical hemostasis in the operation room. Complete wound healing was achieved in all patients during the follow-up periods. Overall, the surgery on an outpatient basis was a very well-accepted procedure for 197 patients (88.7%).

Discussion

Many surgical procedures for anorectal diseases can be performed in the ambulatory or outpatient basis. Potential advantages of outpatient surgery include more rapid return to the comforts of home environment, diminished opportunities for nosocomial infection, and increased available beds for more complex surgery. Moreover, the cost of outpatient surgery is much less than inpatient surgery⁽⁵⁾. A great variety of anorectal diseases including hemorrhoids, fissures, fistulas and various miscellaneous conditions have been shown to be amenable to surgery on a day-case regimen⁽⁶⁾.

Adequate intra-operative and postoperative pain control is the key of success in the ambulatory anorectal surgery. Perianal infiltration of local anesthetics is an effective method of pain control that can be easily performed by the surgeons⁽⁷⁾. A short-acting local anesthetic such as lidocaine provides excellent initial pain relief. A long-acting local anesthetic such as bupivacaine provides several hours of anesthesia postoperatively and allows for the patient's immediate discharge at the end of surgery⁽⁸⁾. Adrenaline mixed into these anesthetics promotes vasoconstriction, which reduces bleeding in the operative field. Moreover, perianal anesthetics infiltration permits the use of a safe jackknife position, resulting in a technically easy surgical setting.

The ambulatory setting, when combined with perianal blockade and no intravenous fluid administration, allows anorectal surgery to be performed with a very low incidence of urinary retention⁽⁹⁾. In this present study, urinary retention was found only in one patient (0.5%) who underwent hemorrhoidectomy for three sites. Despite a very low incidence of urinary retention, mild dysuria in the first few days after the operation was found in 42 patients (18.9%). The reason is that afferent sensory pathways of genitourinary and perianal regions travel via the same nerve roots, so

pain of any magnitude after anorectal surgery can refer to uncomfortable urination.

The use of a home-care program, which includes a high residual diet, potent oral analgesics, mild laxative drug, and a warm sitz bath, makes an easy postoperative course for the patients at their own home⁽¹⁰⁾.

Evaluation of pain with the VAS score was simple and, in the present series, the mean value was always less than five, showing the effectiveness of the local anesthesia technique. The authors found that patients tolerated this surgical operation very well, and there was no progression of complications due to the out-of-hospital setting.

The high patient satisfaction with perianal anesthetics infiltration may be related to the avoidance of hospital admission, the good control of intra-operative and postoperative pain, and the absence or minimally low incidence of side effects, such as urinary retention, nausea, and vomiting. The success of the local anesthetics technique also depends on the skills of the surgeon in providing effective infiltration.

Conclusion

Perianal anesthetics infiltration allows the surgeon to perform anorectal surgery in a day-case regimen with safe and effective intra-operative and postoperative analgesia, and low incidence of urinary retention.

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การผ่าตัดโรคของ rectum และทวารหนักโดยการฉีดยาชารอบทวารหนัก ที่แผนกผู้ป่วยนอก ในผู้ป่วย 222 ราย

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วัตถุประสงค์: เพื่อประเมินความปลอดภัยและผลของการผ่าตัดโรคของ rectum และทวารหนักภายใต้การฉีดยาชารอบทวารหนักโดยไม่ต้องนอนรักษาตัวในโรงพยาบาล

วัสดุและวิธีการ: ใช้การเก็บข้อมูลศึกษาย้อนหลัง ในผู้ป่วยที่เข้ามารักษาโรคของ rectum และทวารหนักที่โรงพยาบาลศิริราช โดยวิธีการผ่าตัดภายใต้การฉีดยาชารอบทวารหนักและไม่ต้องนอนรักษาตัวในโรงพยาบาล ตั้งแต่เดือนมีนาคม พ.ศ. 2545 ถึงเดือน กันยายน พ.ศ. 2548

ผลการศึกษา: ผู้ป่วยที่ได้รับการวินิจฉัยโรคของ rectum และทวารหนักจำนวน 222 คน เป็นเพศชาย 122 คน และหญิง 100 คน อายุเฉลี่ย 43 ปี (ช่วง 16-84 ปี) ได้รับการผ่าตัดภายใต้การฉีดยาชารอบทวารหนักเพื่อรักษาโรคดังนี้ ผ่าตัดริดสีดวงทวารหนัก 150 ราย, ผ่าตัดแผลฉีกขาดเรื้อรังบริเวณทวารหนัก 55 ราย, ผ่าตัดฝีคัณฑสูตร 28 ราย และผ่าตัดหูดหนองไก่ทวารหนัก 3 ราย โดยไม่ต้องได้รับยาแก้ปวดชนิดฉีดเข้าเส้นเพิ่มเติม พบว่าผู้ป่วยมีระดับความรุนแรงของอาการปวดวันแรกหลังการผ่าตัด เท่ากับ 3.4 (จากคะแนนปวดรุนแรงเท่ากับสิบ ไม่ปวดเท่ากับศูนย์) และลดเหลือ 1.2 ในวันที่เจ็ดหลังการผ่าตัด พบผู้ป่วยปัสสาวะไม่ออกหลังการผ่าตัด 1 ราย (คิดเป็นร้อยละ 0.5) และรับไว้ในโรงพยาบาลเพียง 1 ราย เนื่องจากมีภาวะเลือดออกหลังการผ่าตัด (คิดเป็นร้อยละ 0.5)

สรุป: การผ่าตัดโรคของ rectum และทวารหนักภายใต้การฉีดยาชารอบทวารหนัก โดยไม่ต้องนอนรักษาตัวในโรงพยาบาล เป็นวิธีที่มีประสิทธิภาพ และปลอดภัย ส่วนการปัสสาวะไม่ออกหลังการผ่าตัดมีอัตราต่ำมาก