



ORIGINAL RESEARCH PAPER

General Surgery

ROLE OF TOPICAL 2% DILTIAZEM IN PAIN RELIEF IN POST-HEMORRHOIDECTOMY PATIENTS

KEY WORDS:

Hemorrhoidectomy, Pain, post-operative, 2% Diltiazem

Dr Anjani Kumar Anjan

M.S.(General Surgery), Consultant General Surgeon, Kurji Holy Family Hospital, Patna, Bihar

Dr. Vikash Kumar*

M.S.(General Surgery), Consultant General Surgeon, Kurji Holy Family Hospital, Patna, Bihar *Corresponding Author

ABSTRACT

Objectives: To find the mean pain scores on visual analogue scale on second postoperative day after hemorrhoidectomy in patients using 2% diltiazem .

Material and methods: This prospective study was carried out in kurji holy family hospital, patna, department of surgery from may 2013 to March 2017. Sixty patients (F:M=3:1) with third degree hemorrhoids were included in the study

Results: 60 patients of age group between 18 to 68 years(mean=39.79 years) with third degree hemorrhoids from may 2013 to march 2017 underwent hemorrhoidectomy . Post-operatively, topical 2% diltiazem ointment was applied in all patients. On 2nd postoperative day, mean pain scores assessed by Visual Analogue Scale was 4.21.

Conclusion: 2% diltiazem ointment application in perianal region is effective in reducing pain after hemorrhoidectomy with minimal side effect.

INTRODUCTION

Among the perianal pathological conditions Hemorrhoid is one of the commonest condition. It results from pathological enlargement and displacement of upper hemorrhoidal plexus^(1,2) Pain at the operative site is a distressing complication after hemorrhoidectomy.^(3,4) Spasm of internal sphincter is considered as one of the component of this pain.^(3,5) The reason for delayed patient discharge after hemorrhoidectomy is commonly due to post-operative pain. However, average time for discharge is believed to be 2 days.⁽⁶⁾ Time of discharge is important because it involves both cost and hospital bed occupancy and delayed return to work.

The cause of post-hemorrhoidectomy pain is multifactorial, including spasm of anal sphincter and puborectalis muscles, type of anesthesia, poor and delayed wound healing, surgical technique, type of post-operative analgesia, use of stools softeners and subjective pain threshold have been implicated as potential mechanisms.^(7,8,9) Pain control after hemorrhoidectomy has been constantly under debate and investigation, dreadfully by patients and challenging for surgeons. Diltiazem, a calcium channel blocker, has been shown to reduce resting anal pressure and relax gastrointestinal smooth muscle.^(10,11,12,13) Topical application of diltiazem is commonly used to relieve pain and promote wound healing in patients with anal fissure.⁽¹⁴⁾

Therefore, the purpose of this study is to know pain scores on visual analogue scale on second post-operative day after hemorrhoidectomy in patients using 2% diltiazem along with standard treatment so that if found effective diltiazem can be added to standard treatment including warm sitz bath, stool softener and systemic analgesics for the relieve of pain after hemorrhoidectomy

MATERIALS AND METHODS

This prospective study was carried out in kurji holy family hospital, patna, department of surgery from may 2013 to March 2017. Sixty patients with third degree hemorrhoids admitted to surgical wards of the hospital were included in the study. Patients who had concomitant other anal pathology like anal fissure, fistula in Ano, thrombosed hemorrhoids and malignancy were excluded from study.

Informed consent was taken from each patient. Demographic data were recorded. Postoperative pain was measured by visual analogue scale. Patient was asked to mark on the line where they think their pain was which was then matched with a standard 10 centimeter scale to determine the value in centimeters. Zero end of the line represented "no pain" while ten end indicated "worst pain". All patients were examined on second post-operative day in the ward.

RESULT

60 patients with third degree hemorrhoids from may 2013 to march 2017 underwent hemorrhoidectomy in the kurji holy family hospital, Patna, department of surgery. Post-operatively, topical 2% diltiazem ointment was applied in all patients.

The age of patients ranges between 18 to 68 years. Most of the patients lies between 31 to 40 years of age. Mean age group was 39.79 years. 45 (75%) patients were female, 15 (25%) were male, M:F ratio was 1:3. On 2nd postoperative day, mean pain scores assessed by Visual Analogue Scale were 4.21.

DISCUSSION:

Pain at the operative site is a distressing complication after hemorrhoidectomy.^(3,4) Spasm of internal sphincter is considered as one of the component of this pain.^(3,5) The reason for delayed patient discharge after hemorrhoidectomy is commonly due to post-operative pain. The traditional therapy of lateral sphincterotomy has been effective in muscle relaxation and thus pain relief.⁽¹⁵⁾ Galizia et al⁽¹⁶⁾ prospectively randomized 42 consecutive patients with prolapsed hemorrhoids concluded that lateral sphincterotomy with hemorrhoidectomy significantly improves postoperative outcomes. Although addition of lateral sphincterotomy to open hemorrhoidectomy seems to reduce postoperative pain, but may be associated with significant risk of incontinence.⁽¹⁷⁾

Topical application of nitroglycerine to reduce pain after open hemorrhoidectomy has also been employed by various authors.^(4,18) They observed reduction in amount of postoperative pain in patients using topical nitroglycerine ointment but unfortunately associated with significant headache. Hence, an alternative treatment with fewer side effects is necessitated. Diltiazem is a calcium channel blockers with few side effects and similar benefits compared to nitroglycerine.^(19,20) Amoli and associates prospectively evaluated a role of topical 2% diltiazem application after hemorrhoidectomy and concluded that perianal application of diltiazem cream after hemorrhoidectomy significantly reduces postoperative pain and is perceived as beneficial with no increase in associated morbidity.⁽²¹⁾

Chauhan et al⁽²²⁾ prospectively randomized 108 patients of third and fourth degree hemorrhoids and assessed the efficacy of internal sphincterotomy compared with topical application of 2% diltiazem ointment after hemorrhoidectomy for pain relief. They encountered no significant difference in mean pain scores on second postoperative day.

Silverman et al⁽³⁾ evaluated the effects of topical diltiazem in reducing pain after hemorrhoidectomy. They randomly assigned 18 patients of hemorrhoidectomy to receive 2% diltiazem and

placebo ointment; and noticed mean pain scores of 5.2 in diltiazem group as compared to 8.8 in placebo group on second postoperative day. Hence, concluded that application of 2% diltiazem ointment after hemorrhoidectomy significantly reduces postoperative pain and is perceived as beneficial, with no increase in associated morbidity.

In this study, pain perception was significantly reduced with the 2% topical diltiazem application. Average pain scores after using topical diltiazem ointment on second postoperative day was 4.21 which is nearly comparable to above mentioned studies. Hence, there was significant reduction of hemorrhoidectomy pain on second postoperative day in patients who applied topical 2% diltiazem ointment.

CONCLUSION:

2% diltiazem ointment application in perianal region is effective in reducing pain after hemorrhoidectomy with minimal side effect. Further larger study required to establish its value in clinical practice.

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