## ORIGINAL ARTICLE

# CALCIUM DOBESILATE IN SYMPTOMATIC TREATMENT OF HEMORRHOIDAL DISEASE: AN INTERVENTIONAL STUDY

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## ABSTRACT

**Introduction:** Hemorrhoidaldisease is one of the commonest ailments that affects mankind and is currently believed to be caused by distal displacement and structural distortion of anal cushions, which are physiologic structuresA randomized, double blind, controlled study was conducted to investigate the efficacy of oral and local calcium dobesilate therapy in treating acute attacks of internal hemorrhoids.

**Methods**: fiftynine (59)adult patients with first or second-degree internal hemorrhoids were treated with calcium dobesilate for six weeks, while 56 patients received only a high fiber diet to serve as control. Both symptoms and anoscopic inflammation were scored on a scale from 0 to 2 before and six weeks after treatment.

**Results**: Asuccess rateof 83.05% percent with cessation of bleeding plus lack of severe anitis anoscopically at 6 weeks were achieved with calcium dobesilate. Thepretreatmentsymptoms score of 2 were fell significantly to 0.39±0.16 and the pretreatment anitis score of 1.73±0.12 fell to 0.59±0.17 at 6 weeks (p=0.0002 for both comparisons). The symptoms and anoscopic inflammation score obtained with calcium dobesilate therapy were also significantly better than those with diet only. (P=0.0016 and p=0.0014,respectively).

**Conclusions:** oral as well as local calcium dobesilate treatment supplemented with diet and bowel habits discipline provides an effective, fast, and safe symptomatic relief from acute symptoms of Hemorrhoidal disease. This symptomatic relief is associated with significant improvement in anoscopically observed inflammation.

**Keywords:** Calcium dobesilate, hemorrhoidal disease

## INTRODUCTION

Hemorrhoidaldisease is one of the commonest ailments that affects mankind and is currently believed to be caused by distal displacement and structural distortion of anal cushions, which are physiologic structures.[1,2]Anatomicstudies have revealed that the anchoring and supporting sub epithelial tissue deteriorates with aging, and the descended loose lining becomes more sensitive to trauma from stool, occasionally resulting in venous distention, inflammation, erosion, bleeding, and/or thrombosis.[3,4] the finding of proctoscopicanitis which correlates with enlarged lamina propria,capillaries with inflammation, is associated with occurrence of hemorrhoidal bleeding and/or pain.[4,5,11].

The treatment can be grouped into conservative (diet and vascular tonification), nonexcision (sclerotherapy, cryotherapy, manual anal dilatation, diathermy and electro coagulation) and surgical methods (ligation and hemorrhoidectomy). [1,2,7]extent of mucosal fixation by injection sclerotherapy,infrared photocoagulation,or band ligation almost never reaches to that of surgical hemorrhodectomy, most of these alternative fixation methods can be performed in opd basis without anesthesia, and more than 90 percent of symptoms can be successfully controlled by such nonexcisional techniques with fewer complications and pain, compared with hemorrhodectomy.[7,13]More conservative policy is based on the current data that hemorrhoids are normal anatomic structure and age related structural changes occur in every person, whereassymptoms develop in some people.[3,4]. Calcium dobesilate (calcium 2,5 dihydroxybenzenesulfonate) is a drug with previously demonstrated efficacy in the treatment of diabetic retinopathy and chronic venous insufficiency.[8,9,12]

These beneficial effects of the drug are related to its ability to decrease capillary permeability, platelet aggregation and blood viscosity and to increase lymphatic transport. Because these properties would reasonably be expected to contribute to the acute inflammatory attacks of hemorrhoidaldisease, thisrandomized, double blind study was conducted to investigate the efficacy of calcium dobesilate in treating acute attacks of hemorrhoidal disease, based on objective healing and subjective/symptomatic criteria.[6]

## MATHODS

Total of 115 adult patients with first and second-degree hemorrhoids diagnosed by clinical symptoms and anoscopy examination are included in this study.

**Inclusion Criteria**: in all patients, intermittent symptoms attributable to hemorrhoids had existed for longer than six months and rectal bleeding was currently present. Hemorrhoids that bleed but do not prolapse outside the anal canal (bulge into the lumen of the proctoscope) are labeled as first degree hemorrhoidsand that prolapse on defecation but reduce spontaneously or can be reduced digitally and remain reduced labeled as second degree hemorrhoids.

**Exclusion Criteria**: 1.patients with 3 or 4 hemorrhoids in whomprolapse needed manual reduction or was not reducible

2.concurrent fistula or chronic anal fissure, inflammatory bowel disease, diabetes, coagulation disorders, abnormal sexual habits, previous anorectal surgery or previous treatment of hemorrhoid disease with any method other than diet modification and/or topical agents. Rectosigmoidoscopyand barium enema (if indicated) was included in workup to rule out colorectal cause of symptoms.

Ethical approval was obtained from the university ethical committee. Written informed consent was taken from all patients.

After initial anoscopy examination at entry day the patients were randomlyallotted by envelope method to enter study or control group.

Group A (control group n=56): diet manipulation and lifestyle advice.

Group B (calcium dobesilate n=59) after initial anoscopy examination, calcium dobesilate capsule (500 mg) was given in the dosage of two capsule twice a day for one week and one capsule for once a day for 5 weeks and calcium dobesilate ointment (0.5%w/w) was applied twice a day before and after defecation. The therapy was given for six weeks and each case examined after every week to see the improvement or otherwise of various symptoms associated with hemorrhoids. The patients also received dietary and lifestyle advice, as did patients in the control group.

**Diet manipulation**: a high fiber diet was advised to all patients in both groups and educated about importance of fiber (fruits, vegetables etc.) in healthy nutrition. Heavy consumption of spices was also not allowed.Encouragement was given to correct unhealthy defecation habits such as ignoring the need to pass stools, irregular meals, straining and lack of exercise.

**Patient follow up and evaluation of healing:** the patients were reexamined on every weekly. If symptomatic relief was achieved the day of relief from symptoms was recorded. Score as follows:0=significant relief or lack of any symptoms, 1=partial relied of symptoms –minorcomplaints with no bleeding or 2=no relief and/or persistentrectal bleeding.Anoscopy examination performed on every weekly and score as follows:0=pink, healthymucosa without any sign of inflammation, 1=mild anitis (inactive grade 2 hemorrhoid without overt inflammatory signs or 2=easily bleeding hemorrhoids with signs of inflammation. For patients with more than one hemorrhoid the worst lesion was considered for outcome. If bleeding persist for more than two weeks after starting of either therapy and/or anitis score 2 was noted at 2 weeks this regarded as treatment failure. If mild anitis with cessation of bleeding was noted at 2 weeks then calcium dobesilate was continue for two more weeks and patients were advised to come immediately if they developsymptoms. Any recurrent bleeding was evaluated by anoscopy and colonoscopy examination and consider as recurrent of hemorrhoids disease if no other source of bleeding found.

## RESULTS AND DATA ANALYSIS

Calcium dobesilate therapy was carried out in 59 cases and diet therapy in 56 cases.35 patients in diet control group were male and median age was 44 years (range, 22-64). In calcium dobesilate group 39 patients were male and median age of 46(range 26-68). All of the patients had current rectal bleeding. Duration of rectal bleeding varied from 1 month to 3 years. The anitis scores of group A and group B at entry were also comparable (1.70±0.14 and 1.73±0.12 respectively, p=0.66).

**Table 1 showing presenting symptoms:**

| Symptoms | Patients (%) |
|---|---|
| Bleeding per rectum | 115 (100) |
| Anal pain | 38 (33) |
| Anal discomfort | 29 (25) |
| Anal pruritus | 46 (40)) |
| Tenesmus | 22 (19) |
| Constipation/irregular bowel habits | 86 (75) |

Group A: After 6 weeks of diet therapy, symptoms score in group A (1.34±0.19;p=0.023) was noted.16patients were symptoms free and 8 patients were declared partial relief.32 (57.14%) of the 56 patients still had rectal bleeding and anitis score after 6 weeks reached at 1.34±0.22 vs. 1.70±0.14 at entry p=0.0439.the results are shown in table 2.

Group B: after 6 weeks of calcium dobesilate therapy, cessation of rectal bleeding plus lack of severe anitis occur in 48 patients indicating success rate of 81.35% p=0.0051 compared with 44% rate of control group. Time of significant relief from symptoms averaged 6.5 days range (2- 12 days) post treatment anitis score (0.59±0.17) was significantly better than the pretreatment anitis score (1.73±0.12,p=0.0003) as well as posttreatment score of the control group1.34±0.22;p=0.0013). There was no toxic or untoward reaction to the capsule and ointment during study period.

**Table 2: symptomatic and anoscopic score and success rate of group A (diet) and group B (study)**

| Group | Symptoms score | | Anitis score | | Success rate |
|---|---|---|---|---|---|
| | Before treatment | after treatment | Before treatment | after treatment | |
| A-diet (n=56) | 2 | 1.34±0.19 | 1.70±0.14 | 1.34±0.22 | 42.85% |
| B-study (n=59) | 2 | 0.51±0.11 | 1.73±0.12 | 0.59±0.17 | 84.75% |

**Table 3: Symptoms and Anitis score of Group A (control) and group B (study)**

| Scores | Group A (n=56) (%) | Group B (n=59) (%) |
|---|---|---|
| Symptoms score before treatment | | |
| 0 | - | |
| 1 | - | |
| 2 | 56(100) | 59(100) |
| Symptoms score after treatment | | |
| 0 | 16(28.57) | 40(67.79) |
| 1 | 8(14.28) | 10(16.94) |
| 2 | 32(57.14) | 9(15.25) |
| Anitis score before treatment | | |
| 0 | - | - |
| 1 | 17(30.35) | 16(27.11) |
| 2 | 39(69.64) | 43(72.88) |
| Anitis score after treatment | | |
| 0 | 8(12.28) | 33(55.93) |
| 1 | 25(44.64) | 23(38.98) |
| 2 | 23(41.07) | 3(5.08) |

## DISCUSSION

Calciumdobesilate treatment appear to be highly effective in controlling bleeding per rectum in hemorrhoidaldiesease.50 (84.74%) of 59 patients were noted to be symptoms free or significantly improved with complete cessation of bleeding as reflected by significant difference between symptoms scores before and two weeks after treatment=0.0002. Symptoms as well objective anitis scores were significantly better in study group. The time of relief from symptoms in 84.75% of cases averaged 6.5 days. Inour out patients department 1 and 2 degree hemorrhoidal disease are common so included in our study however advanced hemorrhoidal disease (3 and 4 degree) might also benefited from this drug although severe structural degeneration changes might required corrective surgery. Daily intake of dietary fiber and bowel habits were monitored during follow up visits and encouragement was given to correct other causes of constipation such as ignoring need to pass stools, irregularmeals. As per patienthistory, the amount of fiber in diet is sufficient to increase colonic peristalsis and bulky stool and thus regular bowel habits, however this parameter were not investigated.[14, 15] After dietary advice 81.73%(94/115) patients had soft bulky stool and regular bowel habits. Beforetreatment it was 25%. As per this study results, the success rate of diet group seems to be unsatisfactory (42.85%) and dietary therapy alone is not effective in treatment of hemorrhoidal diseases but should be used as adjuvant with any primary treatmentmodality. However we cannot evaluate long term result in form of recurrence because of short term follow up period.

## CONCLUSION

Calcium dobesilate treatment supplemented with high fiber diet is highly effective in symptomatic acute attacks of 1 and 2 degree internal hemorrhoids. This improvement is superior to that obtained in control diet group without any noticeable side effects. Howeverfurther data required for long-term course of patients with this drug.

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