

# Medical Treatment of Primary Internal Hemorrhoidal and External Hemorrhoidal Disease

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**Abstract** The aim of this study was to assess the medical treatment in comparison with hemorrhoidectomy in the management of primary grade-4 internal hemorrhoidal disease (IH) and external hemorrhoidal disease (CH). Group I (medical treatment): 127 patients (59 IH, 68 CH) were prospectively collected and medically treated using oral tablet of micronized purified flavonoid fraction (MPFF) containing 450 mg of diosmin and flavonoids expressed as 50 mg hesperidin, with dosage of 6 tablet per day for 4 days, 4 tablet per day for 3 days, and 2 tablet per day until the signs and symptoms clinically disappear or the end of observation time of 6 weeks. Group II (hemorrhoidectomy): 119 post-hemorrhoidectomy patients (50 IH and 69 CH) were observed with respect to postoperative bleeding, pain, urinary retention, soiling, constipation, recurrence. Statistical calculation using chi-square test to compare the sign and symptom of Group I and Group II. In Group I: the hemorrhoidal piles, bleeding, pain and oozing were progressively decreasing, and all complaints finally disappeared between 1 and 6 weeks without any MPFF's adverse reaction. In Group II: postoperative bleeding, pain, soiling, urinary retention, and constipation were noted. It showed as significant outcome in Group I in comparison with Group II (bleeding,  $p=0.012$ ; pain,  $p=0.000$ ), soiling, urinary retention, anal stenosis and constipation.

**Keywords:** *internal hemorrhoidal disease, external hemorrhoidal disease, medical treatment, hemorrhoidectomy, flavonoid*

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## 1. Introduction

Hemorrhoid is a normal anatomic structure in the anal canal in the form of vascular cushion of both sexes in all ages. Its function is to improve closure of the anal canal to prevent against improper flatus and soiling, thus have important contribution in social living. Internal hemorrhoids have three cushions normally found in the submucosal area of dentate line, and each cushion containing ahemorrhoidal plexus. External hemorrhoids arise from inferior hemorrhoidal plexus covered by squamous epithelium under the anal skin [1,2,3]. The most important part of the cushion is its blood vessels which are bright red in color as a result of high oxygen saturation in blood, and are more suitable for an arterio-venous anastomosis [3]. The submucosal cushions are held in place by the anchoring and supporting connective tissue (ligament of Parks) and the muscular is submucosae. During the act of normal defecation the cushions are filled with blood and it protects the anal canal from injury [4]. During defecation, prolonged straining may cause dilatation and stretching of the cushions, and in combination with the weakness of supporting tissue render the dilated cushions prolapsed down through the anal canal. Hard fecal mass has a tendency to rupture the dilated cushions and bleeding [4]. Internal hemorrhoidal

disease is usually classified into four-degrees of severity: grade I-bleeding; grade II-bleeding and pile that reduces spontaneously; grade III-the prolapsed pile outside the anus during defecation, can be manually reduced back into the anal canal; grade IV-irreducible prolapse. Nowadays, many literatures have suggested conservative treatment for hemorrhoidal disease in conservative way. Many hemorrhoidal patients were afraid or reluctant to be operated. Excisional hemorrhoidectomy is not a minor operation, has many significant complications, and should be used only as a last resort [5]. All above considerations have brought to do the study on the possibility of the medical treatment of severe hemorrhoidal disease for improving the quality of life.

## 2. Methods

This is a cohort prospective study of the patients suffering primary grade IV internal hemorrhoidal disease and external hemorrhoidal disease, were selected as patients in Dokter Hasan Sadikin Central General Hospital from 2000 to 2013. This study was approved by the institution's ethical clearance.

Patients between 20 to 60 years old were chosen based on inclusion and exclusion criterias. Inclusion criteria: male or non-pregnant female suffering ambulatory chronic grade-IV internal hemorrhoidal disease patients that

choosing medical treatment, informed consent voluntary signing, non-smoker. Exclusion criteria: secondary hemorrhoidal disease, pregnant woman, suffer serious organ disease. Medical treatment means using oral 500 mg Micronized Purified Flavonoid Fraction (MPFF) tablets, which contains 450 mg diosmin and 50 mg flavonoids expressed as hesperidin (namely Ardiun or Daflon, produced by Servier, France), with dosage: 6 tablets perday (3 dd 2 tablets) for 4 days, 3 tablets perday (3 dd 1 tablet) for 3 days, and 2 tablets perday consecutively until the end of experiment.

Group I: Medical therapy using MPFF. They were also asked their reason of choosing non-operative way.

Group II: all patients with grade IV internal hemorrhoidal disease, or combined with external hemorrhoidal disease, to have Milligan-Morgan-hemorrhoidectomy.

Group I and Group II were observed of their complaints, i.e. pain, bleeding, stenosis, urinary retention, soiling, constipation and hemorrhoidal recurrences.

The signs and symptoms of hemorrhoidal disease in Group I and Group II were observed every 7th day for 6 weeks and tested for any possibilities of drug adverse reaction

Statistical calculation of non-parametric data was done using chi-square test to compare signs and symptoms of Group I and Group II and analyzed using SPSS for Windows version 18.0, and  $p < 0.05$  considered significant.

### 3. Results

Group I: a total collection of 127 patients (70 males and 57 females) succeeded to heal from their hemorrhoidal

diseases. All signs and symptoms of piles disappeared within 6 week-observation time (Figure 2). Bleeding disappeared less than 2 weeks, oozing was not seen at the end of first week. Mostly the piles were not seen by the 3rd week. There was no relapse during the experiment period. There were not any drug adverse reaction encountered after MPFF administration.

They chose non-operative method because they were afraid of consequences of surgical treatment.

Table 1. Patient's characteristic

Characteristic	Group I	Group II
Number of patients	127	119
Males	70	66
Females	57	53
Internal hemorrhoidal disease	59	50
Internal (grade IV) and external hemorrhoidal disease	68	69
Age 20-30	24	20
Age 31-40	36	38
Age 41-50	59	45
Age 51-60	8	16

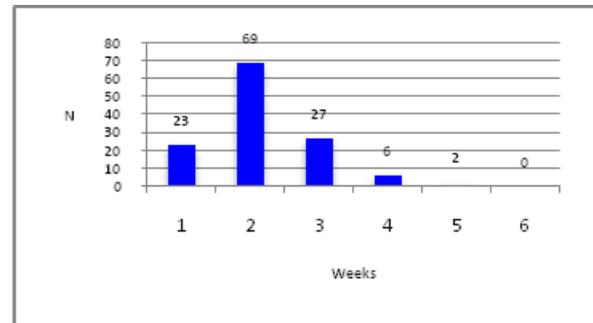


Figure 1. Group I: The healing time in weeks of hemorrhoid mass (N=127)

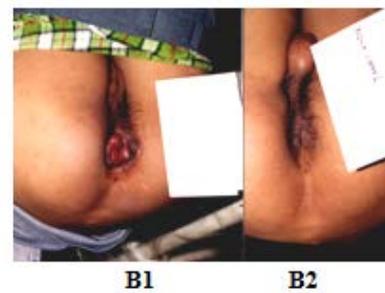


Figure 2. A1 - Grade-IV internal hemorrhoidal disease with bleeding and oozing in a 45 years- old male in Group 1. A2 - Piles disappeared in 4th week  
B1 - Internal and external hemorrhoidal disease of 17 year-old-boy. B2 - Healing of external hemorrhoidal disease with skin tag in the end of the 7th day.

Table 2. Comparative study :medical (group I) and surgical treatment (group II)

	Group I (medical treatment) N=127	Group II (posthemorrhoidectomy) N=119
Without previous bleeding	105	20 (suffered with posthemorrhoidectomy bleeding)
Bleeding in 7 days	18	59
Bleeding in 8-14 days	4	20
Bleeding in $\geq 14$ days	0	20
Without previous pain	47	14 (sufferedwith 14-28 days of posthemorrhoidectomy pain)
Pain in $\leq 14$ days	80	70
Pain in 14-28 days	-	20
Pain in $> 28$ days	-	15
Soiling in 4 weeks	-	10
Soiling in $> 4$ weeks	-	8
Urinary retention in 7-14 days	-	14
Urinary retention $> 14$ days	-	11
Anal stenosis	-	2
Constipation	-	35
Recurrences	55 (43.30%)	69 (61.60%)

Statistical significant difference of signs and symptoms in Group I compares to Group II: bleeding ( $p=0.012$ ), pain ( $p=0.000$ ), soiling, urinary retention, anal stenosis and constipation; showing better outcome in Group I in comparison with Group II.

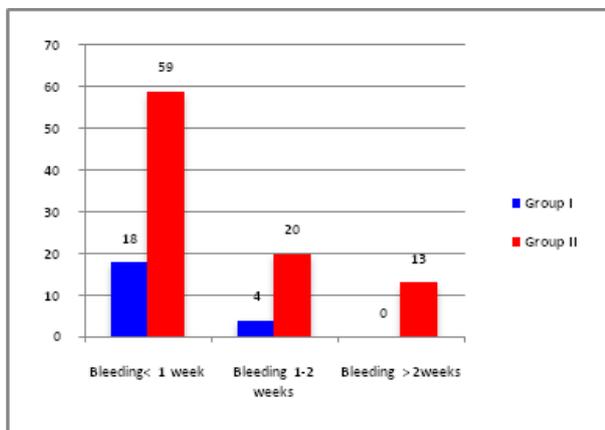


Figure 3. Bleeding in Group I and Group II

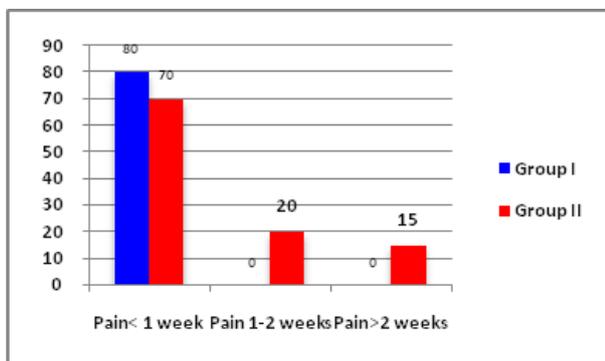


Figure 4. Pain in Group I and Group II

In Group II, 119 patients were collected (66 males and 53 females); 14 cases were without preoperative pain, but latter on complicated with painful postoperative wound for 3 weeks. Another 20 cases complained piles without bleeding preoperatively, but then complained postoperative bleeding in  $> 1$  week.

In Group I, were shrinking into unpainful skin tags.

## 4. Discussion

The hemorrhoidal plexus has an interesting ability in physiologic dilatation as the blood fill up the venous lumen during the act of defecation. The dilatation occurs particularly during prolonged straining. It has been suggested that the principle cause of hemorrhoidal disease seems to be a chronic congestion of the internal hemorrhoidal plexus as a result of failure to empty rapidly during defecation. In addition, the act of straining constricts the vein drainage by prolonged abdominal pressure. The chronic dilatation is possibly thought to cause stretching and weakening of the supporting ligament that enable the dilated vein plexus to prolapse during and after defecation [4,6]. Predisposing factors of dilatation are sedentary living, hot spicy diet, low-fiber diet, smoking, bowel habit, stressful life, hemorrhoidal family history, aging degeneration, overweight. Precipitating factors are repeated episodes of prolonged straining.

Furthermore, the dilated cushions increase the hydrostatic pressure that may produce extravasated fluid (edematous cushions). The non operative way to maintain the integrity of internal as well as external hemorrhoids by practicing a good life style such as high fiber diet and enough drinking, regular exercise, avoid strenuous heavy lifting. The medical therapy should also bring concomitantly changing attitude towards better life style.

MPFF oral tablet has an important contribution in correcting vein integrity that are caused by varying combination of predisposing factors [5,6,7,8]. The results of a clinical investigation Godeberge shows that the signs and symptoms involved in hemorrhoidal disease of grade-I to III were significantly improved for almost 100 % of the patients after 2 months treatment with MPFF [5,7]. In other study, a double blind placebo controlled study involving 100 patients of acute hemorrhoidal disease, shows that MPFF in comparison with placebo result in significant improvement of objective and subjective signs and symptoms. (9) Last trimester pregnant women with grade-I and grade-II had clinical benefits when treated with MPFF, there are safe to use in the last trimester of pregnancy [10]. The clinical intensity of acute signs and symptoms such as bleeding, pain, rectal discomfort, anal exudation and proctoscopic rectal inflammation were significantly decreasing. Those investigation-results have indicated that the efficacy of MPFF in fighting the impairment of vascular cushion in hemorrhoidal disease. The efficacy is based on facts that MPFF has mode of action in improving venous tone, improving lymphatic flow, protects the microcirculation, reducing local inflammation, decreasing capillary hyperpermeability and increasing capillary resistance [11,12,13]. Cooperative attitude of well informed patients are the important point to bringing the successful conservative medical therapy in primary hemorrhoidal disease. MPFF may reduce the frequency, duration and intensity of symptoms of acute internal hemorrhoidal disease [5,7,14].

In comparison with postoperative results in group II, in all cases of group I suggested better healing processes without any medical complication. The results of this study have confirmed that hemorrhoids are not an object of ablation by hemorrhoidectomy, sclerotherapy, infrared coagulation or rubber band ligation, simply because its function can return after recovery. The good results of medical treatment of primary grade IV internal hemorrhoidal disease and external hemorrhoidal disease are supporting the claim that operative treatment or any ablative treatment should be used only as a last resort due to high complication rates [5]. Many reports have mentioned about recurrences after non-stapled hemorrhoidectomy or stapled hemorrhoidectomy [15]. Even after successful medical treatment, the hemorrhoidal disease may recur, but medical treatment will however be a good management for healing. In follow-up of medical treatment, it was found that the patient who become vegetarian and rarely consume spicy foods heal faster, and there was a significant correlation between low fiber diet and recurrence of hemorrhoidal disease ( $p<0.05$ ,  $OR=0.16$ ) [16]. Medical treatment is more cost effective and does not cause side effect or complaints such as pain, bleeding, and other typically encountered in surgical treatment. Results of many studies showing the success of the medical treatment of hemorrhoidal disease using MPFF

without any adverse reaction. Of course it should be informed clearly to the patient, so that they can choose wisely which is best treatment. Hemorrhoidal disease is a disease that is easy to recur after successfully treated, especially if lifestyle is not maintained properly. Recurrence can be treated by the same medical treatment. In conclusion, this study suggested that all cases of internal hemorrhoidal disease and external hemorrhoidal disease can be managed using medical management without any complications.

### Conflict of Interest/Funding

None.

### Acknowledgement

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