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OUTCOME OF PEDICULAR HAEMORRHOIDECTOMY (Milligan morgan verses ferguson method)

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ABSTRACT

BACKGROUND: *Milligan-Morgan excision haemorrhoidectomy remains a very popular treatment modality for third and fourth degree hemorrhoids due to its cost effectiveness and better long-term results. Ferguson haemorrhoidectomy is believed to result in less postoperative pain because of a closed wound. The aim of this study was to compare the effectiveness of Milligan-Morgan excision haemorrhoidectomy with Ferguson haemorrhoidectomy,*
METHODS: *A prospective clinical trial was conducted. Patients with newly diagnosed hemorrhoids requiring haemorrhoidectomy were randomized to either Milligan-Morgan excision haemorrhoidectomy or Ferguson haemorrhoidectomy. Surgical technique and prospective care was standardized. Outcome measures were operative time and bleeding, postoperative pain (measured on visual analogue scale) and rate of wound healing.*
RESULTS: *We randomized 140 patients, 70 to Milligan-Morgan excision haemorrhoidectomy and 70 to Ferguson haemorrhoidectomy; after taking an informed consent from every individual, 140 patients were evaluated. They were aged between 19 and 71 years. There were no differences in patient demographics or type of hemorrhoid being operated on. Ferguson haemorrhoidectomy had a significantly longer mean operative time and minor problems of bleeding, wound discharge and pruritis. At 3 weeks after surgery, Ferguson haemorrhoidectomy had an odds ratio for complete epithelization of 3.1 over Milligan-Morgan excision haemorrhoidectomy. There was less postoperative pain in Ferguson haemorrhoidectomy.*
CONCLUSION: *Ferguson haemorrhoidectomy is superior to Milligan-Morgan excision haemorrhoidectomy.*

KEY WORDS: Milligan -Morgan excision haemorrhoidectomy, Ferguson haemorrhoidectomy, Wound healing, Pain.

INTRODUCTION

Milligan-Morgan excision haemorrhoidectomy remains a frequently performed operation in our country. The lower cost of the procedure associated with a good long-term cosmetic effect in patients with large skin tags make open haemorrhoidectomy a viable option still[1]. An Italian study published recently actually found the Milligan-Morgan procedure to have a better results than stapled haemorrrhoidectomy [2]. However, in many other parts of the world, closed rather than open haemorrhoidectomy is the technique of choice. Ferguson haemorrhoidectomy was designed to leave a less painful perianal wound [3]. Nonetheless, randomized controlled trials have reported conflicting results as to whether closed hemorrhoidectomy provided less pain and more rapid wound healing compared to the open technique [4-7]. This may be due to a variable incidence in wound dehisance after closed hemorrhoidectomy, which leads to prolonged healing and more pain. If the closed perianal wound after closed haemorrhoidectomy results in less pain, it should stand that stapled haemorrhoidopexy with no perianal wound would be only minimally better than closed haemorrhoidectomy[3].
The aim of this study was to assess the effectiveness of Ferguson vs Milligan Morgan haemorrhoidectomy in our setting and population. The parameters, compared were operative time, complications, pain and wound healing.

PATIENTS AND METHODS:

A prospective randomized clinical trial was conducted at Department of surgery Ghulam Mohammed Medical College Sukkur. All patients with newly diagnosed symptomatic

third and fourth degree hemorrhoids requiring heamorrhiodectomy were included in the trial. For inclusion patients had to be between 19 to 71 years of age. This trial was investigator-initiated.

Patients were excluded if they had acute thrombosed internal piles, previous haemorrhoidectomy, anal stricture, fissure in ano, fistula in ano, faecal incontinence, medical conditions that made the patient unfit for elective surgery and who had not consent to the trial.

All patients were randomized to receive either Milligan Morgan haemorrhoidectomy or Ferguson haemorrhoidectomy. The randomization performed was nonconsecutive in nature. The envelopes were sequentially numbered with allocations determined before the trial commenced. Randomization was performed in the operation theatre just prior to surgery. A standard medical package was issued to all patients postoperatively. Patients were blinded to type of surgery performed.

All operations were performed under general anesthesia, with the patient in the supine lithotomy position, by the same surgeon. All patients were given fleet enema prior to surgery. Patients underwent Milligan-Morgan excision haemorrhoidectomy were injected 10ml of 0.25% bupivacaine into perianal skin prior to dissection. The pile masses were retracted and dissected off the internal sphincter with the help of diathermy. The pedicles were secured clear off the internal sphincter and the resected wound left open to granulate with adequate skin bridges. In Ferguson haemorrhoidectomy patients, a standardized closed hemorrhoidectomy was done through an Eisenhammer anal retractor [4, 8]. Hemorrhoids were excised to anorectal junction with diathermy, with adequate preservation of the intervening skin and anoderm bridges. The base of the pedicle was transfixed with 2/0 polyglactin. The edges of the hemorrhoidectomy wound in the anoderm and skin were apposed with continuous polyglactin. Three hemorrhoids were excised in all patients, but small intervening secondary hemorrhoids were left alone to fibrose. No packs were left in the anus postoperatively, and operative time was recorded by an operating theatre nurse.

All patients were prescribed Fybogel (one sachet daily for 2 weeks) to aid in defecation after the operation. All patients were prescribed Daflon two tablets twice daily for 2 weeks. Paracetamol 1 g four times daily and diclofenac 50mg twice daily. Patients were discharged on same postoperative day unless otherwise clinically indicated. All patients were asked to clean

TABLE 1 GRADES OF WOUND HEALING

Grade	Description
1	Sloughy
2	No granulation
3	Granulation
4	Epithelization
5	Completely epithelization

FIGURE, 1 STUDY FLOW CHART

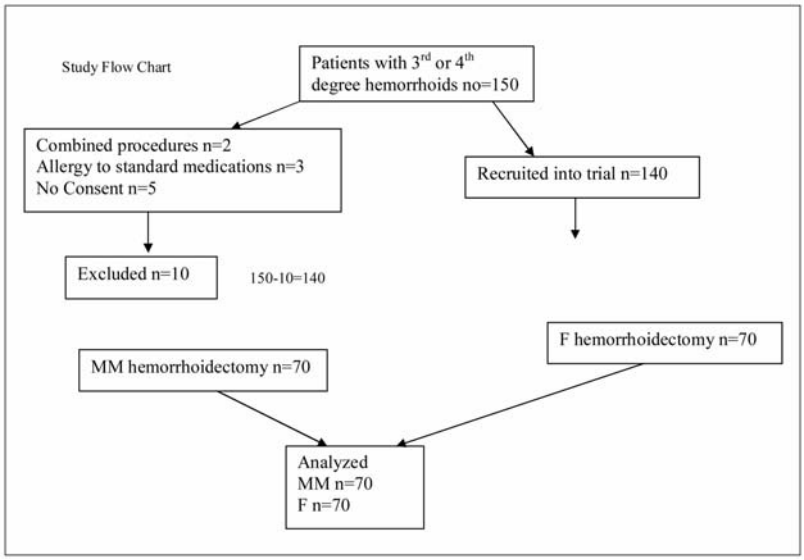

TABLE 2 PATIENT DEMOGRAPHICS, TYPE OF HEMORRHOID AND SURGICAL ASPECT IN THE TWO TREATMENT GROUPS

Variable	MM hemorrhoidectomy	F hemorrhoidectomy
Mean age (years)	37	42
Male sex (%)	91	88
Hemorrhoid prolapsed	100	100
Hemorrhoid thrombosed (%)	10	21
Hemorrhoid bleeding (%)	96	90
Elective surgery (%)	89	92
Mean no: of piles excised	03	03

TABLE 3 COMPLICATIONS IN THE TWO PATIENTS GROUPS

Complication	MM heamorrhoidectomy	F eamorrhoidectomy
Pain required unscheduled hospital stay (%)	10	9.1
Acute urinary retention (%)	5	0
Delayed bleeding (%)	4.2	0
Itch (%)	9.1	7

TABLE 4 OUTCOMES

Complication	MM heamorrhoidectomy	F eamorrhoidectomy
Mean operative time	18.5	25.5
Total wound epithelized by week 3(%)	20	65
Total wound epithelized by week 4(%)	76	95

the wound using a shower spray twice daily. Patients were followed up in the clinic 2 weeks after discharge and then further reviewed at 3, 4 and 6 weeks after surgery.

Patients were familiarized with an 11-point visual analogue pain score from 0 to 10. The patients were asked to record at home before bed time their maximum pain score for the day. The patients were also asked to record the total number of analgesic tablets taken for that day.

The patient wounds were assessed at scheduled appointment. Wound healing was defined as complete epithelization as seen on physical examination. The state of the wound was graded according to five-point scale from sloughy to completely healed (table 1). A single assessor performed the assessment.

RESULTS:

The clinical trial was conducted from April 2007 to June 2009 with follow up of three months. This study included 140 patients, and 70 were randomized to Milligan Morgan hemorrhoidectomy and 70 to Ferguson hemorrhoidectomy. The flow chart (Fig. 1) shows the recruitment and randomization process.

The characteristics of the patients in the two arms of the study are shown in Table 2.there was no statistically significant differences in age, and sex. The indications of haemorrhoidectomies were similar and both arms had nearly the same percentage of elective operation. The seniority of the surgeon was similar in both arms. The Complication in the patients in both arms are shown in Table 3. The mean operative time for Milligan -Morgan excision haemorrhoidectomy was significantly shorter than Ferguson haemorrhoidectomy. Time required for, Milligan -Morgan excision haemorrhoidectomy was only about half that required for Ferguson haemorrhoidectomy (Table 4).

There were no significant differences in postoperative pain score between the two groups on days 1, 3, 7, after surgery. The mean pain score were, higher in Milligan - Morgan excision haemorrhoidectomy group on day 10 and day 14 after surgery. Most patients were pain free on day 21. Patients went on Milligan Morgan haemorrhoidectomy used extra analgesics than Ferguson.

In terms of wound healing, Ferguson haemorrhoidectomy was significantly superior. Of the patients who underwent Ferguson haemorrhoidectomy, 65% had wounds that were completely epithialized 3 weeks after surgery compared to 20% in Milligan -Morgan excision haemorrhoidectomy group (Table 4). By 4 weeks after surgery 95% of Ferguson haemorrhoidectomy wounds had healed compared to 75%in the other group. Nearly all the wounds were completely epitheliazed by 6 weeks after surgery.

DISCUSSION:

We found that patients who underwent Ferguson hemorrhoidectomy had less pain in the early postoperative period. They also had less minor bleeding, wound discharge problem, pruritis and complete epitheliazation of wound. Our study confirmed this and showed, as have other studies [3, 9], a significant less bleeding, pain postoperatively; early wound epithelization of wound, and early back to routine work, as compared to Milligan -Morgan excision haemorrhoidectomy. Further more the patients of Ferguson hemorrhoidectomy group had a little bit longer surgical time duration that is because of approximation of mucosal border.

Minimal short term complications in our patients suggest that Ferguson hemorrhoidectomy is a safe procedure. At 6 weeks follow-up, none of patients had any sign of anal stenosis. Although anal stenosis has been reported [10, 11], we believe this can be avoided by proper technique and proper selection of skin and anal mucosa during excision of hemorrhoid pedicle.

In contrast to the finding of some similar studies [12, 13], we found a very little difference in analgesic use between the Ferguson group and MM group. Anal spasm after hemorrhoidectomy has been implicated in postoperative pain and poor wound healing [14, 15]. It has been postulated that Ferguson hemorrhoidectomy is associated with reduced anal spasm [11].this is because of less irritation due to mucosal approximation over internal anal sphincter. We did not see this advantage translate to less pain in patients in the Ferguson group compared to patients in the MM group. This may have been because, both group of patients experienced similar inflammatory reaction at the wound thus leading to similar pain scores.

The reduced anal spasm and smaller open wounds associated with Ferguson hemorrhoidectomy may, however, have contributed to earlier wound healing. Patients who underwent MM hemorrhoidectomy having 20% complete epithelization rate at 3 weeks and complete epithelization rate was 65% at 3 weeks with Ferguson which is extremely encouraging. Although we have previously shown that topical glyceryl trinitrate is useful, this was deliberately left out of the current protocol to avoid confounding factors. Combining Ferguson hemorrhoidectomy with topical glyceryl trinitrate may achieve even better wound healing rates.

However, as the difference rate of wound healing was high despite of small sample size. We thus contend that the conclusion derived from this study can be considered adequate.

CONCLUSION:

Although , in Ferguson hemorrhoidectomy surgical time duration is little bit longer than Milligan Morgan hemorrhoidectomy, reduced postoperative pain and bleeding and more rapid wound healing making Ferguson superior to Milligan Morgan hemorrhoidectomy.

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