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# Early Experience with Stapled Hemorrhoidopexy in Nairobi, Kenya

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## Abstract

**Background:** Conventional hemorrhoidectomy (CH) is considered the gold standard in the surgical management of symptomatic hemorrhoids. It is however painful and has a relatively lengthy convalescence period. In the last two decades circular mucosectomy using a standard circular stapler has increasingly been performed to mitigate the immediate and short term post-operative shortcomings associated with CH. **Methods:** A retrospective study of the patients undergoing stapled hemorrhoidopexy in four private hospitals between December 2009 and February 2011 was carried out. The objective was to report our early experience with stapled hemorrhoidopexy (SH) and document treatment outcome regarding post-operative pain score, length of hospital stay, return to normal activity, treatment complications and patient satisfaction. **Results:** Forty five (45)

patients with grade III (8.9%, n=4) and grade IV (91.1%, n=41) hemorrhoids underwent SH during the study period. The mean age was 33.3 (17-54) years with 28 (62.2%) males. The mean pain score at the time of discharge using the visual analog scale (VAS) was 4 (2-5). The mean hospital stay in days was 1.9 +/- 0.6. One patient developed sepsis while two (4.5%) had technical failure of the procedure necessitating conventional excisional hemorrhoidectomy under a different surgeon within 8 months of SH. Two thirds (n=30) were very satisfied, 12 (26.7%) were satisfied and 2 (4.4%) were not satisfied with the procedure. The mean overall satisfaction was 85.2% (sd +/- 20.3). **Conclusion:** SH is a safe, convenient and effective treatment of hemorrhoids with a high rate of patient satisfaction.

**Key Words:** Stapled, Hemorrhoidopexy, Outcome, Kenya

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## Introduction

Hemorrhoidal disease is considered a very common condition worldwide with a wide incidence range between 4 and 86% depending on whether one is concerned with symptoms, anatomic considerations or take-up of care (1). It is estimated that worldwide 50% of the population over 50 years of age have experienced symptoms of hemorrhoids at least once in their life (1,2). Many treatment modalities have been employed in the surgical management of symptomatic hemorrhoids but conventional hemorrhoidectomy (CH,) whether open (Milligan-Morgan), or closed (Ferguson) remains the gold standard against which other procedures must be compared (2,3). These conventional procedures are however known to cause considerable post operative pain, disproportional morbidity for the seemingly benign condition they are supposed to treat and

have a relatively lengthy convalescent period (4,5). For two decades now circumferential mucosectomy as conceived by Antonio Longo in 1993 using a standard circular stapler device (PPH03) is increasingly being performed across the world to mitigate some of the shortcomings mentioned above (2). Many studies have indicated that SH considerably reduces postoperative pain (4-10), shortens hospital stay (3, 5-8, 11), shortens operative time (3, 4, 6-8), shortens time to return to normal activity (3-8), and that it is safe (3,5, 6, 8), effective (5) and reproducible (10) with a high patient satisfaction(8). However evidence has emerged to suggest that SH has a higher rate of recurrence of hemorrhoidal symptoms compared to CH (6,12,16)

## Methods

This study was conducted in patients admitted at

The Nairobi, The Aga Khan, The Mater and MP Shah hospitals which are four leading private institutions in Nairobi, Kenya. Records of all patients who underwent stapled hemorrhoidopexy (SH) and were admitted at the four hospitals between the 1<sup>st</sup> of December 2009 and the 28<sup>th</sup> of February 2011 were reviewed. The stapling procedure in each case was done by the same surgeon. Each patient received standard post operative analgesia which comprised initially of an injectable non steroidal anti inflammatory drugs (NSAIDS) in combination with perfolgan and/or pethidine and ultimately was discharged on a combination of a NSAID and Betapyn<sup>TM</sup> or Tramal<sup>TM</sup>. Patients were also discharged on oral laxatives. Patients' demographic, relevant clinical and operative data was extracted and entered into a standard questionnaire. In addition each patient was directly contacted by phone by the primary surgeon and relevant outcome data obtained. The primary outcomes were postoperative pain, length of hospital stay, return to normal activity, post operative complications, recurrence of symptoms and overall patient satisfaction. Post operative pain was assessed using the verbal numerical rating scale from 1 to 10, where 1 denoted no pain and 10 denoted maximum pain. Return to normal activity was considered as time in days taken for one to resume their usual socioeconomic activities with minimal or no assistance.

## Results

A total of 45 patients, majority (62.2%) of them male, underwent SH during the study period. The mean age of presentation was 33.3 (17-54) years. General anesthesia was used in 42 (93.3%) patients while the remaining 3 (6.7%) had spinal anesthesia. Lithotomy position was utilized in 43 (95.6%) and prone position in two patients. The distribution of the cases as per the hospitals is shown in Table 1. Two patients had previously undergone conventional hemorrhoidectomy and one had been managed with banding. Four (8.9%) patients had grade III and 41 (91.1%) had grade IV hemorrhoids. In addition 9 (20%) patients presented with thrombosed hemorrhoids while 20 (44.4%) had concurrent anal fissure. Only 4 (20%) patients with accompanying anal fissure had lateral sphincterotomy done and 3 (33.3%) of those with thrombosis had thrombectomy in addition to SH. Intra-operatively 15 (33.3%) patients had bleeding controlled by pressure in 7 and suturing in 8. The mean pain score at discharge using the VAS was 4.2 (1-9) with a median of 4.0 (IQR, 2-5). The mean hospital stay and time to return to normal activity were 1.9 +/- 0.6 and 7 (3-30) days respectively. The number of post operative visits averaged 1.9 (0-7) with a median of 1.0 (IQR, 1-2). The mean follow up time was 183

(9-389) days with a median of 144 (IQR, 80-323) days. Two (4.5%) patients had technical failure of the procedure, presenting with persistent hemorrhoidal disease symptomatology post operatively and both successfully underwent conventional excisional hemorrhoidectomy under a different surgeon within 8 months of SH. One of these two patients was the first case done by the primary surgeon and the other had significant bleeding both intra and immediate post-operatively. One patient developed local and systemic sepsis and was readmitted five days after discharge and managed medically. Concerning the level of patient satisfaction with the procedure, 30 (66.7%) were very satisfied, 12 (26.7%) were satisfied and 2 (4.4%) were not satisfied. The mean overall satisfaction rate was 85.2% (s. d +/- 20.3). One patient was lost to follow up hence only 44 were analysed.

Table 1: distribution of patients as per hospital

Hospital	Number of Patients	Percentage
The Mater hospital	22	48.9
The Nairobi hospital	15	33.3
The Aga Khan hospital	7	15.6
M.P Shah hospital	1	2.2
<b>Total</b>	<b>45</b>	<b>100</b>

## Discussion

Consistent with other studies there was a male predominance (28 males=62.2%). The mean age was 33.3 years reflecting a younger age group compared to similar studies done elsewhere in Egypt(3), Karachi(7), Brazil (14), and Philadelphia, USA(15) whose mean age was 40.7, 44.1, 39.5, and 52 years respectively. SH has largely been advocated due to the short term benefits in the immediate post operative period in terms of less pain, shorter operative time, shorter hospital stay and quicker return to normal activity. The mean pain score at discharge in this study was 4.2 using verbal numerical rating scale. This compares well with that of 4.43 found by Khan et al in a study involving 30 patients (7). Post operative pain after conventional excisional hemorrhoidectomy is of concern to both patient and doctor and dictates recovery period and resumption of normal economic activity. Reduced pain after SH compared to CH has been reported in case (7), randomized clinical trials(4, 5, 9, 10, 16) and meta-analyses(6-8). Jayaraman and colleagues (2, 13) were not able to demonstrate a significant difference in the pain score between the two groups.

This study did not assess operating time but found that mean hospital stay was 1.9+/- 0.6 days which is comparable to accounts by Rowell et al and Khan et al who reported a mean hospital stay of 1.09 +/- 2.82 and 2.03 +/- 0.81 days respectively (5, 7). Increasingly this procedure is being performed as a day case where patients are discharged after 4-6 hours of observations. In this study none of our patients was done as a day case largely due to caution, given that this was our initial experience. Shorter operative time and shorter hospital stay are administratively desirable as this maximizes theatre utilization and avails beds to other deserving users. In a systematic review involving the meta-analysis of 27 randomized clinical trials (n=2279) Burch et al (6), found a shorter hospital stay for the SH group in 88% of the trials. In a meta-analysis including 25 randomized trials that reviewed 1,918 procedures with a follow up duration of 1-62 months, Tjandra et al (8) found SH to accord a shorter hospital stay, allow faster functional recovery with shorter time off work and earlier return to normal activities. Compared to CH on average return to normal activity for stapled hemorrhoidopexy group was half as long, 17 vs 34 and 8.1 vs 16.9 (4,5).

In line with these studies ours had a return to normal activity of 7 (3-30) days. Two (4.5%) patients had primary failure of the procedure as they continued to have the pre-operative symptomatology and they subsequently had conventional hemorrhoidectomy six to eight months after SH. They understandably represent the percentage of those who were not satisfied with the procedure. These two patients were the 1<sup>st</sup> and the 5<sup>th</sup> in the series and the failure is considered technical and related to the learning curve. One patient was readmitted and successfully treated conservatively for local and systemic sepsis five days after discharge. Late sepsis has previously been reported in literature (8, 14). This study posted an overall patient satisfaction of 85.2% which compares well with other studies (8,13,15). Factors considered in assessing satisfaction included duration spent in hospital, pain control and time taken to resume normal activity. None of our subjects had significant post-operative bleeding, anal stenosis or fecal incontinence

## Conclusion

Our initial experience with SH indicates that the procedure is safe, has a high rate of patient satisfaction and indeed mitigates the immediate and short term post-operative concerns experienced with CH. It is recommended that two decades after it was conceived, this procedure has indeed come of age, should be

offered to patients and practiced more often in the Sub Saharan region. Given that some of the outcome data was obtained by telephone conversation by the primary surgeon himself it is acknowledged that recall and observer bias may have been introduced hence our recommendation that a further prospective study be undertaken to mitigate these concerns.

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