

Stapled Haemorrhoidectomy: A 10-year Experience at a Tertiary Centre in Benin City

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ABSTRACT

Background: The surgical treatment of haemorrhoids has evolved over time with the introduction of stapled haemorrhoidectomy being a major breakthrough. Stapled haemorrhoidectomy is gaining acceptance as a veritable alternative to conventional excision haemorrhoidectomy. We present a review of all patients who had stapled haemorrhoidectomy in our facility over a decade.

Methods: The records of all patients who had stapled haemorrhoidectomy at the University of Benin Teaching Hospital between January 1st, 2016 and December 31st, 2025 were retrieved and analyzed.

Results: Of the 6 cases of stapled haemorrhoidectomy done, 4 (66.7%) were males. The mean age was 53.3 years with a range of 13 to 71 years. Anal protrusion was reported in all patients. The duration of symptoms ranged from 7 to 20 years. Rectal bleeding occurred in 4 patients (66.7%) and grades III and IV disease occurred in equal proportions (50%) respectively. Five patients (83.3%) had stapled haemorrhoidectomy under subarachnoid block while one patient had combined spinal and epidural anaesthesia. Post-operative perianal pruritus and anal spasm occurred in one patient each, which resolved on non-operative management.

Conclusion: Stapled haemorrhoidectomy is a safe and effective alternative to the conventional excision haemorrhoidectomy in the treatment of grades III and IV haemorrhoids.

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INTRODUCTION

Haemorrhoids are abnormal swellings involving the anal cushions and constitute the most commonly encountered benign anorectal disease (Chalkoo et al., 2015; Pata et al., 2021). The internal haemorrhoids are painless and associated with bleeding while external haemorrhoids may become painful and itchy. Up to 40% of the population suffer from symptomatic haemorrhoidal disease (Hong et al., 2022). Treatment options for haemorrhoids include lifestyle modification, open or closed haemorrhoidectomy and minimally invasive procedures. Stapled haemorrhoidectomy is a minimally invasive procedure for the treatment of internal haemorrhoids (Chen et al., 2025).

First introduced in 1993 by Italian surgeon Antonio Longo, stapled haemorrhoidectomy has become a viable alternative to the conventional excisional

haemorrhoidectomy (Hetzer et al, 2002; Touzin et al., 2006). This method uses a circular stapling device to excise redundant tissue and reappose anorectal mucosa thus restoring the anorectal anatomy (Jaiswal et al., 2013). Stapled haemorrhoidectomy is associated with reduced post-operative pain, the patient recovers faster and hospital stay is shorter (Shweliya et al., 2025). However, there is a higher risk of recurrence with the procedure compared to the traditional excisional haemorrhoidectomy (Maryńczak et al., 2026). Although stapled haemorrhoidectomy has gained much popularity and is now widely accepted globally, it was not until less than two decades ago that the procedure was introduced in Nigeria.

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Stapled haemorrhoidectomy commenced in the last decade at the University of Benin Teaching Hospital (UBTH), a tertiary hospital in southern Nigeria. However, the procedure has not gained much acceptance largely due to its high cost.

The objective of the study was to describe our experience with the procedure of stapled haemorrhoidectomy at the University of Benin Teaching Hospital in the past decade.

MATERIALS AND METHODS

Study Setting/ population: This study was a 10-year retrospective audit (January 2016 – December 2025) of all stapled haemorrhoidectomies carried out at the University of Benin Teaching Hospital. UBTH is a tertiary hospital located in Benin City, Edo State, Nigeria which provides a wide range of surgical services to the people including the traditional open and closed haemorrhoidectomy. Stapled haemorrhoidectomy was introduced to UBTH in 2015. The audit was carried out in accordance with the World Medical Association Helsinki declaration.

Study variable: Data on stapled haemorrhoidectomy which included age, sex, clinical features, peri-operative variables, complications and length of hospital stay were collected from the case files of the patients retrieved from the medical records.

Description of surgical procedure: Bowel preparation was done according to protocol. Anaesthesia was Subarachnoid block or combined spinal epidural anaesthesia. Patient was placed in the lithotomy position and a digital rectal examination was performed. The obturator of the anal dilator was introduced into the anus for anal dilatation and reduction of prolapsed tissue. The circular anal dilator was then inserted into the anus and secured to the skin by means of 4 stay sutures using silk 1. The anal canal was everted with four silk sutures before dilator placement to bring the dentate line closer to the anal verge, thus reducing

the risk of incorporating the anoderm into the staple line. The anoscope was then introduced into the anus and a 2/0 polypropylene purse string suture was placed, starting from the 3 O' clock position following one of the markings (4 – 5cm from the dentate line) provided in the transparent anoscope. At least seven bites were taken at 3, 5, 7, 9, 11, 1 and 3 and half O' clock positions to enable proper doughnut formation. Bites were taken above the haemorrhoids and only mucosa and submucosa tissues were taken. The purse-string was assessed for completeness by digital examination. The mucosa was felt circumferentially as the string was pulled with no suture felt. The dedicated 33-mm hemorrhoidal circular stapler was opened fully, and introduced into the anal canal proximal to the purse-string, which was then tied. The threads were pulled through the holes on the sides of the stapler and knotted. The stapler was closed while holding traction on the sutures, and gently pulled outward. The completely closed stapler was allowed to stay for 20 - 60 seconds before firing for adequate haemostasis and vessel compression. Whenever this procedure was performed on a woman, a vaginal examination was performed before the stapler was fired to exclude vaginal entrapment in the device.

After firing and removing the stapler, the retractor was used to examine the staple line, and if there was any bleeding or gaps, sutures were placed at this time. Dry gauze was placed on the anal verge, and kept in place with mesh underwear.

Sitz bath and Stool softeners ensured a more comfortable first bowel movement. Pain was usually most severe in the first 72 hours after the procedure and was alleviated with analgesics. Patients were seen for postoperative visit 4-6 weeks after the procedure, at which point they typically could tolerate a rectal examination.

Data analysis: Data was presented as mean, frequencies and percentages.



Figure 1a: pre-operative clinical photograph



Figure 1b: hemorrhoidal circular stapler

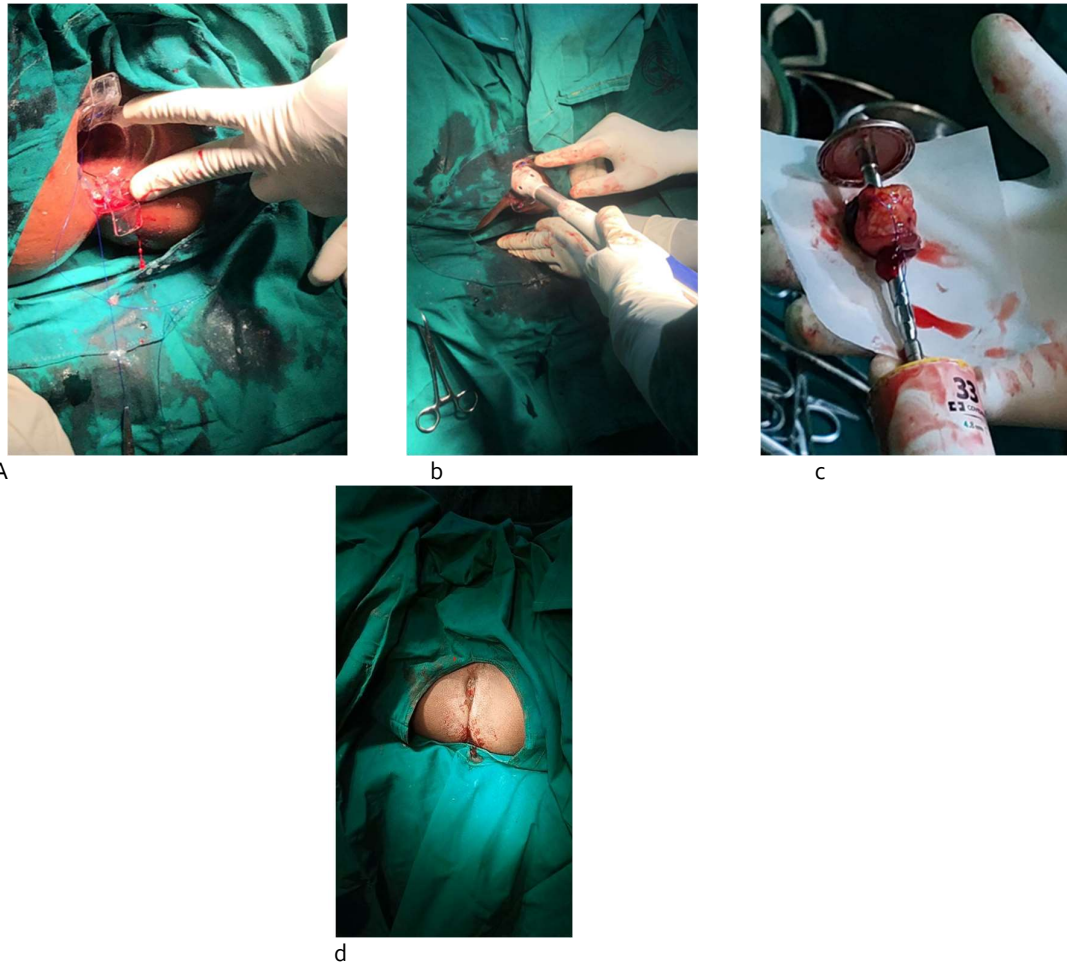


Figure 2a, b, c and d: anoscope in-situ for purse string placement, deployment of circular stapler, stapling device showing complete doughnut and immediate post- op clinical photograph.

SUBJECTS

PATIENT 1: A 65-year-old male with anal protrusion for 20 years which was manually reducible with no rectal bleeding. Examination revealed haemorrhoids at 3 and 7 o'clock positions. Colonoscopy revealed internal haemorrhoids. Had stapled haemorrhoidectomy under combined spinal and epidural anaesthesia and was discharged on 2nd post-operative day. He had good pain control and no significant post-operative complications.

PATIENT 2: 60-year-old male with anal protrusion of 10 years duration which had become irreducible. There was occasional passage of bright red blood in stool, no anal pain. Examination revealed a circumferential grade 4 haemorrhoids for which he had stapled haemorrhoidectomy under subarachnoid block. He had good pain control and was discharged 2 days later with no complications.

PATIENT 3: 31-year-old male with a 12-year history of anal protrusion which had become irreducible.

There was associated passage of bright red blood in stool, and occasional anal pain. Examination revealed circumferential grade 4 haemorrhoids for which he had stapled haemorrhoidectomy under subarachnoid block. He had residual prolapse at 3 O'clock position and anal spasm which resolved with non-operative management. The patient required additional analgesia beyond the routine. He was discharged on the 5th post-operative day.

PATIENT 4: 31-year-old female with anal protrusion of 7 years duration which was manually reducible. There was occasional passage of bright red blood in stool. She had stapled haemorrhoidectomy under subarachnoid block. She had an uneventful recovery; pain control was satisfactory and she was discharged on the 2nd day post-operatively.

PATIENT 5: 62-year-old male with manually reducible anal protrusion for 14 years. No rectal bleeding. Colonoscopy revealed internal haemorrhoids. He had stapled

haemorrhoidectomy under subarachnoid block. He had satisfactory recovery, good pain control and was discharged on the 2nd post-operative day with no complications.

PATIENT 6: 71-year-old female with irreducible anal protrusion for 15 years. Associated passage of blood per rectum and recurrent constipation. Examination revealed circumferential grade 4 haemorrhoids for which she had stapled haemorrhoidectomy under subarachnoid block. She had good pain control and an uneventful post-operative recovery and was discharged on 2nd post-operative day.

RESULTS

The age range was 31 to 71 years with a mean age of 53.3 years. Four patients (66.7%) were males

while two patients (33.3%) were females. Anal protrusion was the predominant complaints reported by all the patients. Symptom duration ranged from 7 to 20 years with a mean of 13 years. Four patients (66.7%) had associated rectal bleeding. Three patients (50%) each had grade III and grade IV haemorrhoids respectively. Four older patients had colonoscopy on account of altered bowel habit which revealed internal haemorrhoids. Five patients had stapled haemorrhoidectomy under subarachnoid block (83.3%) while one patient had combined spinal and epidural anaesthesia. One patient had perianal itching in the post-operative period which resolved in the follow up period while another patient had anal spasm and residual mild prolapse. Average duration of hospital stay was 4.5 days.

Table 1: showing the sociodemographic data and clinical features of the patients.

N	Age (Years)	Sex	Occupation	Presenting Complaints	Duration of Symptoms	Reducibility	Bleeding	Constipation	Anal Pain	Tenesmus
1	65	M	Judge	Anal Protrusion	20years	Manually	Nil	Yes	Nil	Nil
2	60	M	Lecturer	Anal Protrusion	10years	Irreducible	Yes	Yes	Nil	Nil
3	31	M	Pharmacist	Anal Protrusion	12years	Irreducible	Yes	Nil	Yes	Nil
4	31	F	Teacher	Anal Protrusion	7years	Manually	Yes	Nil	Nil	Nil
5	62	M	Lawyer	Anal Protrusion	14years	Manually	Nil	Yes	Nil	Nil
6	71	F	Lecturer	Anal Protrusion	15years	Irreducible	Yes	Yes	Nil	Nil

Table 2: showing comorbidities and peri-operative events of the patients

N	Hypertension	Diabetes	Colonoscopy	Location Of Piles	Anaesthesia	Pain Control	Bed Stay (Days)	Complications
1	Yes	No	Internal Haemorrhoids	3 And 7 o'clock	Cse	Good	4	Perianal Itching
2	No	No	Internal Haemorrhoids	Circumferential	Sab	Good	4	Nil
3	No	No	Nil	Circumferential	Sab	Fair	7	Anal Spasm, Residual Prolapse At 3 o'clock
4	No	No	Nil	3 And 7 o'clock	Sab	Good	4	Nil
5	Yes	Yes	Internal Haemorrhoids	3,7,11 o'clock	Sab	Good	4	Nil
6	Yes	Yes	Internal Haemorrhoids	Circumferential	Sab	Good	4	Nil

Cse – Combined Spinal and Epidural Anaesthesia; Sab - Subarachnoid block

DISCUSSION

Hemorrhoidal disease is a commonly encountered anorectal condition in surgical practice (Pata et al., 2021). Treatment has ranged from lifestyle modification, pharmacological methods, and minimally invasive procedures to surgical

treatment (Hong et al, 2022). Over the years, excision haemorrhoidectomy has been the predominant surgical treatment option in many low-income countries. In the last 3 decades, stapled haemorrhoidectomy has gained widespread acceptance in many centers (Chalkoo

et al., 2015; Jaiswal et al., 2013). Of the 6 cases who underwent stapled haemorrhoidectomy presented in this series, the mean age at presentation was 53.3 years with an age range of 31 years to 71 years. Ray-Offor et al. (2019) reported age greater than 50 years in over 50% of the hemorrhoidal disease cases studied. A study amongst Caucasians reported an incidence of haemorrhoids in 45 to 65 years of age in 5% of the population (Dziki et al., 2016).

There was a male preponderance accounting for 4 patients (66.7%) of the cases studied. A study in southern Nigeria reported a higher incidence of hemorrhoidal disease in males (Ray-Offor et al., 2019). Late presentation was prevalent, with symptom duration ranging from 7 years to 20 years with a mean duration of symptoms of 13 years. Anal protrusion was the predominant symptom occurring in all the patients studied while 4 patients (66.6%) had associated passage of blood in stool. Mekinnen et al. (2024) reported painless rectal bleeding as the most common complaint in haemorrhoid disease. However, this study recruited only grades III and IV haemorrhoids (which are indications for haemorrhoidectomy) accounting for the predominance of anal protrusion in the symptomatology.

Fifty percent of the patients each had grades III and grade IV disease respectively. Lifestyle modification, pharmacologic methods and minimally invasive procedures such as injection sclerotherapy and rubber band ligation are often the treatment options for grade I and grade II haemorrhoids. Surgical intervention is indicated in grades III and IV disease (Davis et al., 2018). The four older patients had colonoscopy which revealed internal haemorrhoids. Five patients had stapled haemorrhoidectomy under subarachnoid block while one patient had combined spinal and epidural anaesthesia. One patient had perianal itching in the post-operative period which resolved in the follow up period while another patient had anal spasm and residual mild prolapse. Post-operative pain control was satisfactory in 5 patients on routine post-operative analgesics. One patient who had anal spasms had unsatisfactory post-operative pain control and needed additional analgesics beyond the routine. Post-operative pain is a common complication of haemorrhoidectomy and it is much less with stapled haemorrhoidectomy (Agbo, 2011). No serious morbidity was recorded such as anal incontinence or rectal bleeding requiring intervention. Average duration of hospital stay was 4.5 days. Five of the patients (83.3%) were discharged on the second post-operative day. Supervised bowel preparation

was done as in-patient for all the patients to ensure compliance accounting for the prolonged hospital stay

CONCLUSION

Stapled haemorrhoidectomy is a safe and effective alternative to conventional excision haemorrhoidectomy in the treatment of symptomatic haemorrhoids. Post-operative pain control is satisfactory and there is no associated increased risk of complications.

REFERENCES

- Agbo SP (2011). Surgical management of hemorrhoids. *J Surg Tech Case Rep*; 3(2): 68-75.
- Davis BR, Lee-Kong SA, Migaly J, Feingold DL et al (2018). The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Management of Hemorrhoids. *Dis Colon Rectum*; 61(3): 284-292.
- Dziki L, Mik M, Trzcinski R, Buczynski J et al (2016). Surgical treatment of haemorrhoidal disease – The current situation in Poland. *Prz Gastroenterol*; 11:111–114
- Chalkoo M, Ahangar S, Awan N, Dogra V et al (2015). An Early Experience of Stapled Hemorrhoidectomy in a Medical College Setting. *Surg Sci*; 6: 214-220.
- Chen Y, Wang Z, Xie Y, Wang X et al (2025). Stapled hemorrhoidopexy for hemorrhoids: An overview of systematic reviews and meta-analysis. *Asian J. Surg*; 48 (1): 1-20
- Hetzer FH, Demartines N, Handschin AE, Clavien P (2002). Stapled vs Excision Hemorrhoidectomy: Long-term Results of a Prospective Randomized Trial. *Arch Surg*; 137(3):337–340.
- Hong YS, Jung KU, Rampal S, Zhao D et al (2022). Risk factors for hemorrhoidal disease among healthy young and middle-aged Korean adults. *Sci Rep*; 12(1): 129.
- Jaiswal SS, Gupta D, Davera S (2013). Stapled hemorrhoidopexy - Initial experience from a general surgery center. *Med J Armed Forces India*; 69(2):119-123.
- Maryńczak K, Włodarczyk J, Adamiak J, Szabla A et al (2026). Comparison of Surgical Outcomes and Recovery Process Following Milligan–Morgan Hemorrhoidectomy (MMH) and TST–Stapler Circular Stapled Hemorrhoidopexy (TS–CSH): A Retrospective Single-Centre Study. *Appl Sci*; 16(4):1765.

- Mekinnen R, Gelana T (2024). Current updates on human hemorrhoid disease and its treatment options. *J Dis Glob Health*; 17(2): 21-24.
- Pata F, Gallo G, Pellino G, Vigorite V et al (2021). Evolution of surgical management of hemorrhoidal disease: An historical overview. *Front Surg*; 8: 727059
- Ray-Offor E, Amadi S (2019). Hemorrhoidal disease: predilection sites, pattern of presentation, and treatment. *Ann. Afr. Med*; 18(1): 12-16.
- Shweliya MA, Al-Hamdany ASA, Ahmed MJ, Shimal AA *et al* (2025). Stapled Versus Conventional Hemorrhoidectomy: A Retrospective Study and Comparative Analysis of Outcomes. *F1000Research*; 14: 601
- Touzin E, Hegge S, McKinley C (2006). Early experience of stapled hemorrhoidectomy in a community hospital setting. *Can J Surg*; 49(5):316-320