
بسم الله الرحمن الرحيم

DIAMOND FLAP ANOPLASTY FOR SEVERE ANAL STENOSIS

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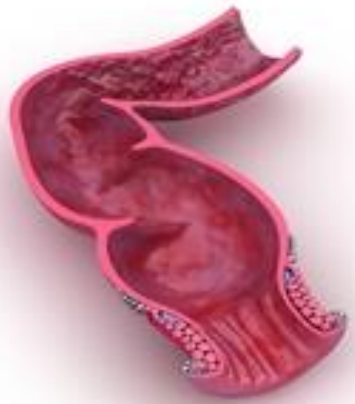
Anal stenosis is the result of loss of anoderm with scarring and fibrosis . Anal stenosis represents a technical challenge in terms of surgical management. It is a rare but serious complication of anorectal surgery, most commonly seen after surgical hemorrhoidectomy.



However, stenosis can also occur in the absence of an anorectal surgical history.

Causes of anal stenosis

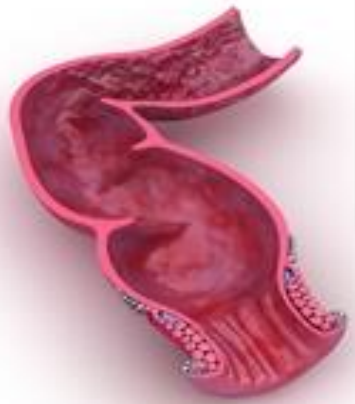
Anorectal surgery

- Hemorrhoidectomy
- Whitehead amputative hemorrhoidectomy
- Excision of low lying tumors
- Extensive debridement /fulguration of condyloma
- Wide excision of Paget's disease or Bowen's disease

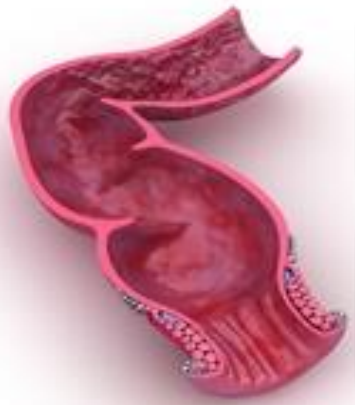
Anastomotic stricture from coloanal or ileoanal anastomosis

- Pull-through procedures in children with Hirschsprung's disease /imperforate anus

Trauma



- Inflammatory bowel disease
- Radiation
- Infections
  - Sexually transmitted disease
  - Tuberculosis
- Chronic laxative abuse
- Neoplasia
- Congenital abnormalities

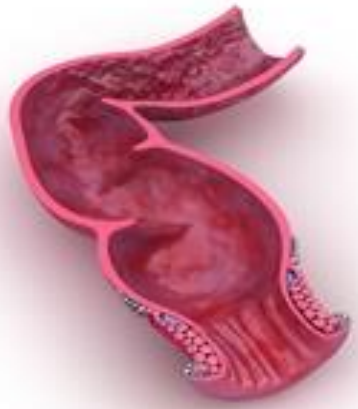


Classifications

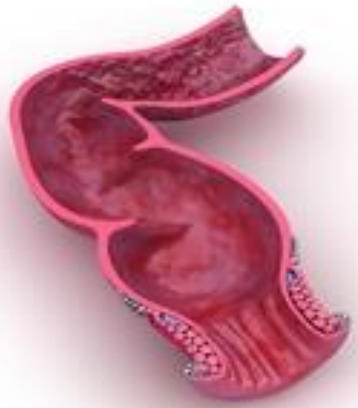
Classification by severity	Classification by location	Classification by extent
Mild: Exam can be completed with finger or medium Hill Ferguson retractor	Low: At least 0.5 cm distal to dentate line	Localized: one level or quadrant of the anal canal
Moderate: Dilation need to examine with finger or medium Hill Ferguson retractor	Mid: 0.5 cm distal to 0.5 cm proximal to dentate line	Diffuse: more than one level or quadrant
Severe: Unable to examine with little finger or small Hill Ferguson unless forcefully dilated	High: At least 0.5 cm proximal to dentate line	Circumferential: entire circumference

Diagnosis

Usually straight forward after careful history and local inspection with digital rectal examination, history of anal procedure especially hemorrhoidectomy is a strong evidence of anal stenosis.

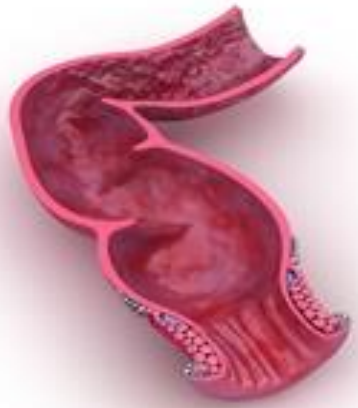


Patients usually report painful or difficult defecation ,difficulty initiating evacuation, Incomplete evacuation other symptoms include narrow stool, rectal bleeding and constipation.



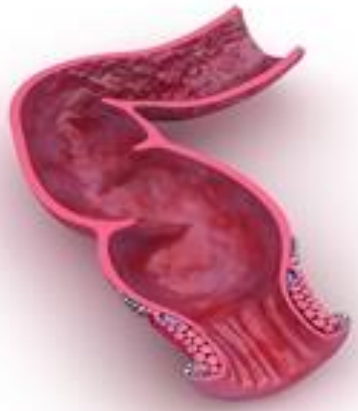
Treatment

Treatment of anal stenosis will vary depending on the location, severity, and cause of the stenosis.



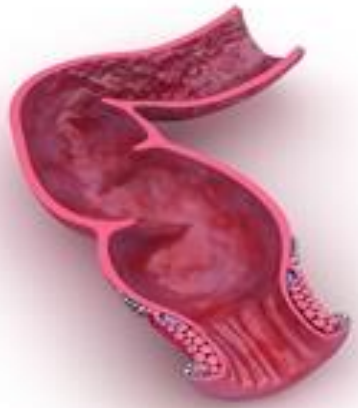
Non-operative Treatment

For patients with mild/moderate low stenosis, non-operative treatment should be instituted, with stool softeners/bulking agents and dilation. Dilation is appropriate for stenosis from coloanal or ileoanal pull-through procedures, from crohn's disease and radiation.



Operative Treatment

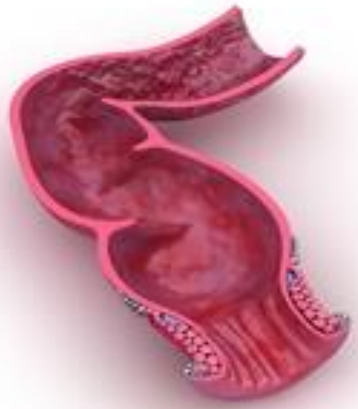
Is indicated for patients with moderate to severe stenosis, with stenosis associated with ectropion, and for those with mild stenosis who fail non-operative treatment.



	Low stenosis	Mid stenosis	High stenosis
Mild/ Moderate stenosis	Dilation Y-V anoplasty	Dilation Stricturotomy /stricturoplast ya Mucosal advancement flap U-Flap House Flap Diamond Flap	Endoscopic Dilation Transanal stapled reanastomosisb Mucosal Advancement flap U-Flap House Flap
Severe stenosis	U-flap House flap Diamond flap	U-Flap House Flap Diamond Flap	S-Plasty U-Flap House Flap

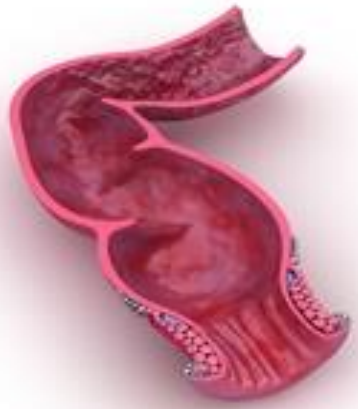
OBJECTIVE:

The aim of this study was to investigate the results of diamond-flap anoplasty performed in a calibrated manner for the treatment of severe anal stenosis due to a previous hemorrhoidectomy.

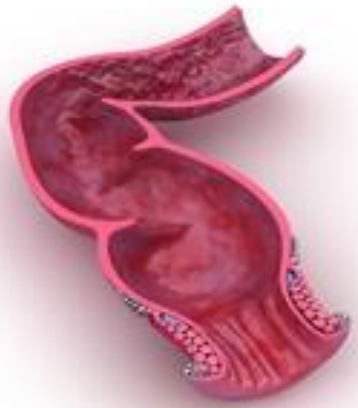


PATIENTS AND INTERVENTIONS:

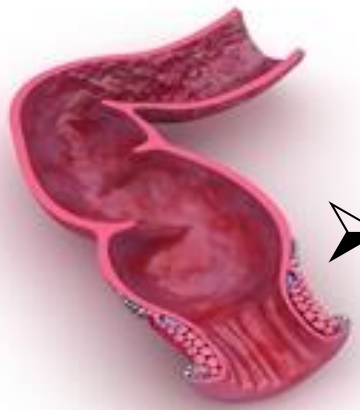
Anoplasty with unilateral diamond flaps was performed for severe anal stenosis, targeting a final anal caliber of 25 to 26 mm.



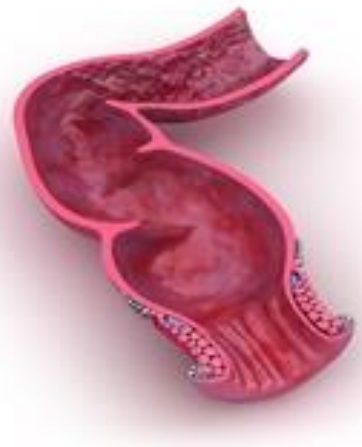
This study included 5 consecutive patients with anal stenosis who underwent diamond flap anoplasty for anal stenosis from February 2015 to april 2017 there were 3 males and 2 females ranging in age from 25 year to 43 year (mean age 34). all patients had severe anal stenosis and 2 patients had a history of failed anoplasty.



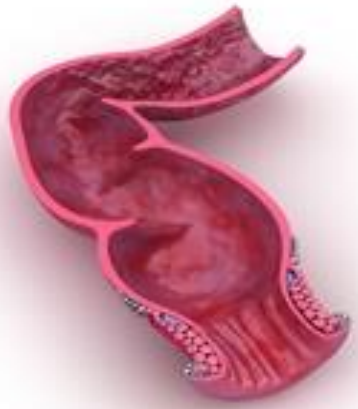
- In all patients, digital examination was not possible, (87%) complained of obstructive defecation, (79%) of painful evacuation, and (23%) of frequent episodes of bleeding during defecation.
- Hemorrhoidectomy was the main common cause for the stenosis.
- The time elapsed from hemorrhoidectomy to anoplasty varied from 4 months to 2



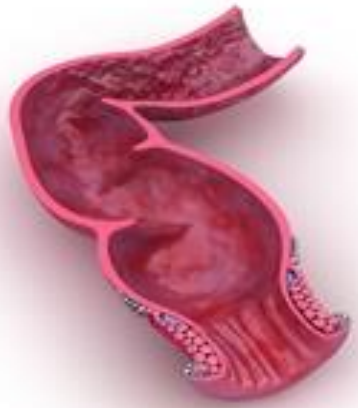
- All operations conducted under general anesthesia in the lithotomy position.
- Mechanical bowel preparation done for patients with single enema.
- All patients received preoperative ceftriaxone 1 gm. and metronidazole infusion 500mg few hours before the procedure.



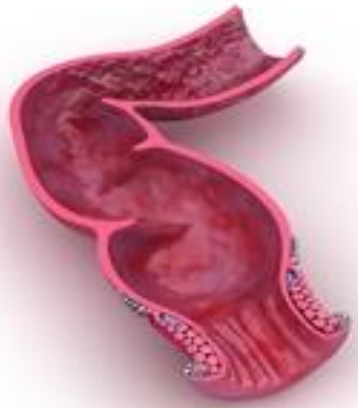
The procedure includes making incision across the fibrotic stricture to dilate the anus and make a diamond flap defect then equivalent diamond flap was made adjacent and lateral to the defect with good mobilization of skin and subcutaneous fat to ensure suturing to the defect without tension then the resultant defect lateral to the flap was sutured with interrupted 4-0 vicryl suture.

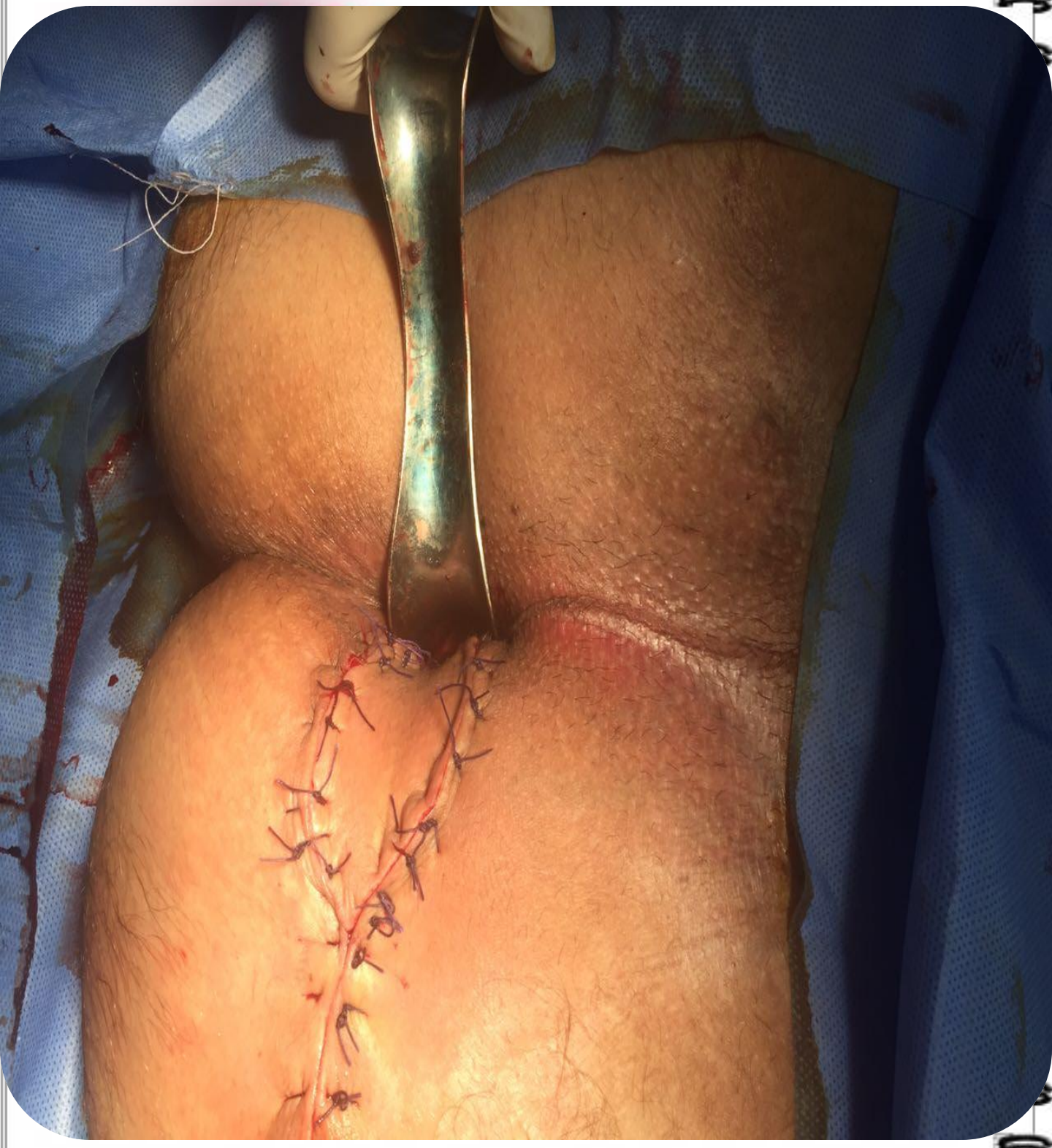


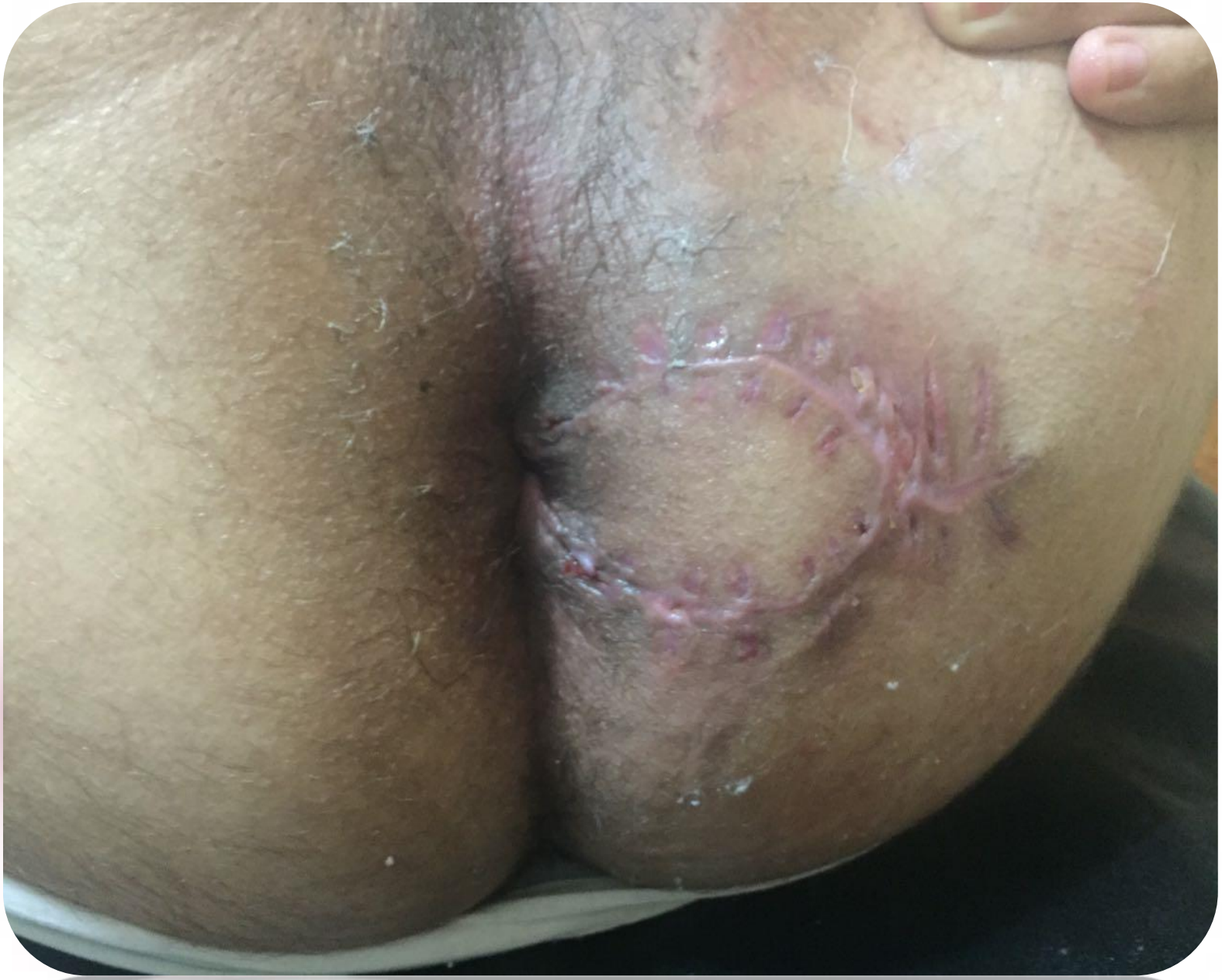
Lateral sphincterotomy done for all patients. Patient was discharged at the day after surgery, all patients examined at 1, 2 and 7 days postoperative for any early complications and assessment of pain using Visual Analogue Scale VAS (from 0-10), and then after 3 and 6 months to evaluate the result of procedure and patients satisfaction also using visual analogue scale (VAS). Stool softeners were used for first few postoperative days to aid evacuation.



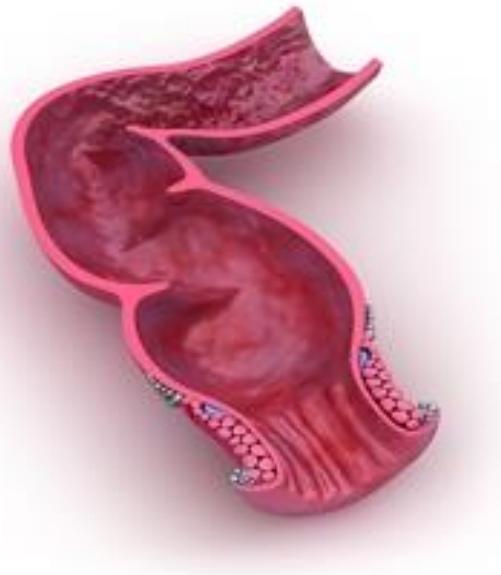
Results of visual analogue scale used to assess postoperative pain, no prolonged postoperative Paine, Wound breakdown seven days postoperatively, no flap loss or displacement occurs. one patients develop transient gas incontinence resolved within 2 months of postoperatively. no patient developed wound infection. All patients are followed between 2-4 months with



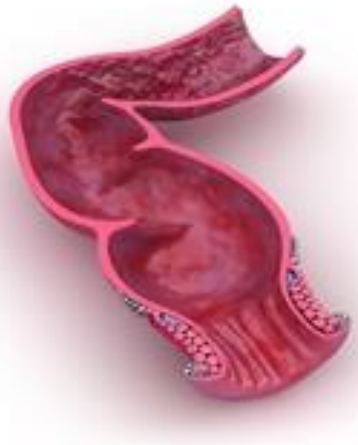




Conclusion



Diamond flap anoplasty is easy procedure with low complication rate and can be used for severe anal stenosis.

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