

Modified Excision of Sacrococcygeal Pilonidal Sinus in Bihar

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Abstract: Sacrococcygeal pilonidal sinus is a source of one of the most common surgical problems among young adult. Pilonidal Sinus is associated with small midline pits behind the canal and over the sacrum and coccyx. The condition principally affects young people after puberty is more common in men than in women, principally affects while and rare in Black or Asian patients. Male gender, obesity, occupations requiring prolonged sitting, deep natal clefts, excessive body hair, poor body hygiene and excessive sweating were the main risk factors.

Aim: The present study evaluates the surgical technique of "Wide Excision and Modified Repair" which has low recurrence rate, better healing time lesser post-operative Complications and reduces hospital stay. Surgical treatment for Sacrococcygeal Pilonidal Sinus (SC-PS) is diverse. 138 patients of SC-PS were treated in Anupama Nursing Home, Patna & Nalanda Medical College, Patna (Bihar) by "Wide Excision & Modified Repairs" from September 2002 to August 2010. Exclusion criteria were (a) acute pilonidal disease (b) recurrent disease of pilonidal sinus (c) history of systemic disease (d) pilonidal abscess.

Method: Prospective hospital based study was carried out in 138 patients of SCPS treated at tertiary care hospital Anupama Nursing Home and Nalanda Medical College Patna from September 2002 to August 2010 with Exclusion Criteria.

Result: Stiffness of body hair, number of baths and time spent seated per day were predictive risk factors. Male: Female ratio was 3.93:1. Median hospital stay was 5+2 days, healing time 24+7 days, Recurrence of disease 1.57% No complications seen in 64.99%. Postoperative bleeding was 10.14%.

Conclusion: Hirsute people with prolonged sitting time and have decreased number of baths per week are increased incidence for SCPS. Wide excision and modified repair techniques are superior to other surgical techniques with respect to low recurrence, less postoperative complication, shorter healing time and early return to work.

Keywords: Complication, pilonidal abscess, Sacrococcygeal Pilonidal Sinus

I. Introduction:

Sacrococcygeal Pilonidal sinus is a well-recognized source of a common surgical problem affecting primarily white men between puberty and their early thirties [1], the name of the disease originated from Latin meaning "nest of hair". SCPS was first described by Hodges in 1880 and later was described by Herbert Mayo in 1833.

SC-PS is a common disease of the adult age group with male preponderance, presenting in the cleavage between the buttocks and was diagnosed by epithelialized, follicle openings. The estimated incidence is 26 per 1, 00000 [1] [2]. The etiology of pilonidal sinus is controversial. Two theories of cause of pilonidal sinus (a) Developmental abnormality proposes that there are epidermal rests with hair embedded below the dermis in the midline as a result of failure of fusion. (b) Acquired theory suggest that hair is shed from around the perineum and that the distal ends of the hair act as drills into small sebaceous or hair follicles. Hair penetrates or is sucked into the dermis and subcutaneous tissues which creates minute pits. SCPS is a simply of foreign body reaction against hair within the soft tissue of natal cleft [2]. First described by Mayo in 1833 the congenital origin secondary to a remnant of an epithelial lined tract from post coccygeal epidermal cell rests or vestigial scent cells. The condition was commonly diagnosed in jeep driver which led to it being known as "Jeep Disease". Acquired theory [3] [4] suggest that local trauma, poor hygiene, excessive hairiness and presence of deep natal cleft caused SC-PS. Karydaki's hypothesis, which is currently the most popular theory worldwide, claims that one of or a combination of three factors is necessary for the pathogenesis of SCPS (1) the invader (Loose hair) (2) Physical force (3) Skin vulnerability. Elective treatment of pilonidal sinus can be divided into three categories (a) minimal surgery (b) opening of sinus tract and (c) excision with or without rotational skin flap. The management of the SC-PS varies from hair clipping with good hygiene, wide excision of the area, simple excision and the drainage, Marsupialization, excision and primary repair to rhomboid excision and Limberg flap. The main concern for the treatment is recurrence ranged from 20-40% [5]. Diverse reasons attributed to recurrence were inadequate tract excision, midline sutures, repeated infection, accumulation perspiration and friction with the hair getting into the wound [6]. The present study is an analysis of the treatment outcome used

by wide excision and modified repair in Anupama Nursing Home Patna and Nalanda Medical College Bihar from Sep. 2002 to Aug. 2010 with 7 years follow up at regular intervals.

II. Material & Methods

This prospective study was carried out on 138 patients, who had elective operative for SC-PS with exclusion criteria between September 2002 to August 2010. Informed Consent of the patients were taken after explaining the operative technique to them the clinical parameters evaluated included age, sex, abdominal circumference, pilus number per 1cm depth of the intergluteal sulcus, presence of external opening of a pilonidal sinus tract and the results of the histopathological evaluation of the sacrococcygeal biopsy materials. All statistical evaluation was performed.

Surgical Technique

Physical examination routine investigation, preoperative broad spectrum antibiotics (1 gm. Ceftriaxone + 500mg Salbactam with Metronidazole 100ml) given and patient Anaesthetized by General Anesthesia with patients placed in lateral position with flexed limbs. Sinus tract probed and delineated by methylene blue dye. Unequal elliptical incision given 5cm all around the sinus, hemostasis secured and tissue excised laterally to the fascia underneath subcutaneous fat were undercut to allow approximation of edges. Wide excision of the pilonidal area, including all affected skin and subcutaneous tissues down to the presacral fascia the wound may be left open allowed to marsupialize or closed as a primary procedure. There is a high breakdown rate mainly because of the shearing forces. The shearing force can be minimized by placing the incision off the midline as in the Karydakis procedure. Avoidance of midline incision reduces the risk of non-healing. Primary closure should ensure that there is no dead space and that some form of presence dressing in used to prevent hematoma that may become secondarily infected. Suction drains may be used. Alternatively Compression dressing can be applied within the sutures used to close the defect.

Postoperative care

Postoperatively patients placed on one side. Protections from contamination were essential and early ambulation advised. Injectable continued for 48 hours. Low residue diet given. Oral analgesic administered. Repeated dressings were indicated to avoid early recurrence, prolonged discomfort and disability. Drain removed on 2nd postoperative day. Regular follow-up done, weekly for 4 weeks, monthly for six months and then yearly for 7 years. 21 Patients were lost in follow up 15.2% . Depilatory agents were used several times per month provided pre testing for sensitivity to the agent had been negative.

III. Result

A total of 198 patients presented with SC-PS of which 138 met the inclusion criteria 69.7% the mean age were 28 years range 15-47 years. Male to female ratio was 3.93:1. The median hospital stay was 5±2 days, length of incapacity for work 9±4 days and healing time were 24±7 days. The recurrence of the disease was 1.57%. No complications were in 64.99% and postoperative bleeding was 10.14%. The number of patients with superficial skin infection and seroma formation was 7.97% and 5.79% respectively.

Table -I: Postoperative Complication of Wide Excision & Modified Repair.

COMPLICATION	FREQUENCY N=138	%
NO COMPLICATION	89	64.49
BLEEDING	14	10.14
INFECTION	11	7.97
CHRONIC PAIN	9	6.52
SEROMA	8	5.79
HEMATOMA	4	2.89
NECROSIS	1	0.72
RECURRENCE	2	1.57
	N=138	100%

Table – II: Clinical Assessment of Wide Excision and Modified Repair.

MEAN AGE (YEARS)	28
SEX MALE	110 (79.71%)
FEMALE	28 (20.29%)
	RATIO M:F (3.93:1)
MEAN DURATION OF PILONIDAL SINUS YEARS	1.7

IV. Discussion:

SC-PS is a blind epithelial tract situated in the skin of the natal cleft. Hodges first used the name 'Pilonidal' in describing the condition in 1880. The origins of Pilonidal disease had been debated well over a century. Before mid-1940 most practitioners believed that the cause of Pilonidal sinus was congenital. Patey and Scarff proposed the now generally accepted theory that Pilonidal disease is acquired. Mann and Springall described asymmetrical excision and primary close-up using general anesthesia with mean hospital stay of 16 days [7]. Bascom demonstrated multiple stages in the development of Pilonidal disease through microscopic studies [8]. There are two theories for the genesis of SC-PS - congenital theory and acquired theory. Pilonidal Sinus is extremely rare in people who use ablution after defecation. SC-PS is Classified as: Simple Pilonidal sinus: this is a central sinus with small cavity, having minimal secondary tracts. Closer to midline complex Pilonidal sinus: This has branching tracts away from the midline, frequently it is a large midline, frequently it is a large tract and infected. The most important drawback of Karydak's procedure is that the dead space emerging after excision cannot be adequately obliterated, particularly in patients with a thin gluteal subcutaneous tissue. Suction drains are generally used to prevent complications of a potential dead space. The presence of a dead space may be associated with an increase in superficial skin infection rate. Regarding numerous studies that reported fascinating outcomes with sophisticated fasciae cutaneous flaps such as rhomboid flap, Z-plasty and gluteal rotation flap, it is thought provoking that cosmetic outcome seems to be somewhat ignored by the proponents of flap procedures. Karydak's procedure has most of the recurrences occur within the first post-operative year. Pilonidal Abscess: formation takes place whenever sinus opening gets blocked with infected contents. The main concern for the treatment of SC-PS is recurrences 20-40%. In this study the recurrence rate was 1.57%. Excision and primary closure as done in our series give a good result in healing and an acceptable recurrence rate.

V. Conclusion:

On the basis of the data presented, I conclude that wide excision and modified repair techniques is superior to wide excision and wide excision with Limberg flap for the surgical treatment of SC-PS with respect to low recurrence, less postoperative complication shorter healing time and early return to work. Chamberlain's study commented that the frequency of asymptomatic SCPS is more than tenfold higher than the incidence of clinical SCPS.

Conflict of Interest	None
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Ethical Issue	None

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