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Original Article:

Adult Umbilical Disorders in Surgical Practice – An Experience from Kashmir.

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Abstract: Umbilical disorders form an important part of general surgical practice. The disorders may be congenital or acquired and manifest in both genders and affects all age groups. This article analyses the profile of adult umbilical disorders as seen in a surgical division of a medical college in Kashmir valley over a period of two years.

Key Words: Umbilicus; Hernia; Pilonidal sinus; Granuloma; Endometriosis; Lipoma; Sebaceous cyst.

Introduction:

Umbilicus is an important embryological, anatomical and aesthetic landmark in the anterior abdominal wall. With the advent and widespread use of laparoscopic surgeries, umbilicus has virtually become a gateway to abdominal access. But umbilicus may itself be a site of various lesions.(1) This article analyses the profile of adult umbilical disorders as managed in a surgical division of a medical college in Kashmir valley.

Materials and Methods:

The study was undertaken retrospectively and the data was retrieved from verified surgical log books of the authors and the departmental data of surgical division of the medical college of SKIMS, Srinagar, Kashmir. The data included demographics, presentation, management and complications of all the patients above the age of 16 years managed as inpatients/ day care cases for umbilical disorders from June 2011- June 2013. All the cases that had incomplete records or had been referred to other specialties for definitive management were excluded from the study. The data was analysed with Microsoft Excel – 2007 and SPSS -10.

Results:

Seventy five patients including 26 (34.67%) males and 49 (65.33%) females were treated over a period of two years from June 2011- June 2013 as shown in Table 1.

Table 1: Umbilical disorders managed at SKIMS Medical College from 2011-2013.

Disorder	Number			Age Range/ Mean(yrs)	Procedure	Anaesthesia	Complications
	Male	Female	Total				
Umbilical hernia	15	44	59	18- 52 (34.8)	Mayo – 24 Suture repair - 14 Mesh – 19 Ventral patch- 2	LA-37 GA- 22	Rec - 6 Inf - 2
Endometriosis	0	2	2	19-34 (26.5)	Excision-2	GA- 2	-
Pilonidal sinus	2	0	2	23- 38 (25.5)	Conservative – 1 Excision - 1	GA-1	F C - 1
Omphalolith	2	1	3	27- 31 (29)	Removal -3	LA- 2 GA-1	-
Sebaceous cyst	2	0	2	25-43 (34)	Excision-2	LA-1	Inf-1
Post burn/surgical stenosis	1	1	2	16-38 (27)	Umbilicoplasty-2	GA-2	-
Suture granuloma	2	1	3	34-45 (38.7)	Excision-3	GA-3	-
Umbilical polyp (epithelial)	1	0	1	17	Excision-1	LA-1	-
Lipoma	1	0	1	37	Excision-1	GA -1	-

Rec – Recurrence; Inf – Infection ; FC – Failed conservative

The umbilical hernia formed the commonest surgical disorder (78.7%) in umbilical region and included 52 primary and 7 recurrent hernias. 54 (91.5%) were operated electively whereas 5 cases (8.5%) had reported with obstruction mandating emergency surgical intervention. The repair was under taken with Mayo's technique in 24 (40.7%), suture herniorrhaphy in 14 (23.7%), open extra-peritoneal polypropylene mesh repair in 19 (33.2%) and ventral patch repair in 2 (3.4%) cases. Surgical site infection and recurrences occurred after a Mayo's repairs. Recurrences occurred in 6(10.2%) cases including 4 in suture

herniorrhaphy and 2 in Mayo's repair groups. Recurrences were managed with mesh repair.

Two cases of endometriosis managed by excision included 1 primary and 1 post LSCS (Lower segment caesarean section). Both the cases had classical history of lump appearance with sanguineous discharge during menstrual cycles as presentation. Pilonidal cysts presented with umbilical discharge and episodes of pain and were managed conservatively as a policy and a single case underwent excision with neo-umbilicoplasty after failed conservative trial. The lone lipoma had initially been misdiagnosed as an irreducible hernia but on exploration, no facial defect had been seen and histopathological analysis of specimen had shown fatty content suggestive of lipoma. Two sebaceous cysts were excised and one had a surgical site infection. Three cases of omphalolith managed over three years presented as chronic foul odorous discharge and were manual labourers with poor personal hygiene. A single epithelial polyp in a 17 years old child was excised uneventfully. The suture granulomas presented as recurrent purulent discharge after laparoscopic cholecystectomy (LC) in 2 and abdominoplasty in 1 case. The cases after LC presented after 3 and 5 months of operation and the one after abdominoplasty reported after 2 years. The suture material inciting the granuloma included coated vicryl (polyglactin) in post LC and PDS (polydioxone) in post abdominoplasty. The cases were managed with excision and repair of sheath with polypropylene.

As is evident from the Table 1, a major proportion of operable umbilical disorders were operated upon under local anaesthesia, i.e., 37 out of 75 (49.3%). The follow up period of hernia ranged from 18 months to 3 years (mean 21 months) in 54 cases of hernia where as 5 were lost to the follow up. In other conditions, the mean follow up was 19.2 weeks (range 3 weeks in lipoma to 18 months in pilonidal sinuses). As is evident from Table 1, complications occurred in 10 (13.3%) cases and included hernia recurrence surgical site infection and failure of conservative approach.

Discussion:

Umbilical disorders form an important group of disease entities requiring surgical intervention worldwide. Umbilicus functions as a blood channel during intrauterine life besides playing a major role in development of intestine and urinary system. At birth, however no function should persist and anomalies in this development lead to most of the umbilical disorders.

Hernia is the commonest surgical disorder in umbilicus and about 10% of all hernia occurs in umbilical/epigastric area.(2) Depending on the available facilities/expertise, the features of the hernia and general condition of the patient, multiple techniques are available for hernia repair. In recent times and particularly in economically developed world, laparoscopic hernia repairs have increasingly been undertaken and proven to be found to be safe, comfortable and effective (3), though Mayo's repair or suture herniorrhaphy is still widely used(4-7) due to simplicity and cost effectiveness. Higher recurrence rates have been a major drawback for Mayo's and suture repair as compared to other techniques, as reported in literature. Lau and Patel (3) reported recurrence rate of 8.7% in suture repair whereas Sanjay et al (5) reported 11.5 % recurrence after Mayo/suture herniorrhaphy as compared to none after mesh repair. Our series has recurrence rate of 10.2%. Venclauskas L et al (8) studied the factors responsible for recurrence and found out that the bigger size of hernia (greater than 2 cm) and higher body mass index (BMI) to be more important than the repair undertaken. However Mayo's and suture repair offer an important advantage of being able to be accomplished under local anaesthesia safely. This distinct feature besides being cost effective has the potential to avoid complications like obstruction and strangulation due to delay, while awaiting the surgical procedures under GA as stressed by Menon and Brown.(6) In our series 37 (62.7 %) of hernia repairs were undertaken under LA by Mayo's / suture repair as compared to 22 (37.3%) under GA by other techniques. No laparoscopic techniques had been applied due to lack of facilities. However, ventral patch as used in 2 (3.5%) cases was found to be technically easy and effective on the long term, though cost could be limiting factor unless indigenous modified versions are devised. This technique seem to offer the advantage of being lesser extensive with lesser possibility of recurrences.(9)

Two cases of umbilical endometriosis (one primary and one post surgical) were managed over the period of three years. Pelvic endometriosis is a common condition but umbilical endometriosis (either spontaneous or secondary to surgery) is uncommon and accounts for only 0.5% to 1% of all endometriosis cases.(10-11) Patient may present with umbilical bleeding / painful lump during periods of menstruation (12) or else presentations may be atypical and pose diagnostic difficulty, mimicking other acute diseases but it should be suspected in any female presenting with a painful or bleeding mass close to the umbilicus or abdominal surgical scar.(13-14) Management comprises of histological diagnosis and excision with 2mm margin (15) though drugs such as oral contraceptives and gonadotropin releasing analogues may also be given a trial.(16)

Umbilical pilonidal sinus was managed in two cases. Conservative approach by careful removal of hair was attempted in both cases. The conservative approach failed in one case and sinus excision with umbilicoplasty was undertaken. Pilonidal sinus is caused by hair penetrating the skin inducing foreign body reaction and development of granulation tissue lined sinuses. Patient may be asymptomatic or present with pain, discharge or bleeding. Many predisposing factors have been identified including deep umbilicus (anatomical variation), hirsute status, tight clothing/belts, poor hygiene and positive family history.(17) Kareem T recently published a series of 134 cases of umbilical pilonidal sinuses and recommended that conservative treatment be regarded as the first choice and the main method of treatment.(18) He found the improper extraction of hair to be the main cause of failure of conservative treatment and suggested that recurrence can be prevented by giving the patients instructions on preventive measures. If conservative treatment fails, surgical excision of sinus with umbilical preservation should be undertaken.(19)

We managed three cases of suture granuloma. Suture granulomas are benign, granulomatous inflammatory mass occurring as a reaction to the use of non absorbable suture. Two of the cases in our series had previously undergone laparoscopic cholecystectomy and the third had undergone para-umbilical hernia repair. The irritating suture material included PDS in two and dyed Vicryl in one case. Port site complications following conventional laparoscopic surgery occur at the rate of about 21 per 100,000 cases (20) and suture granuloma is of rare occurrence in literature. Suture granulomas should be considered as differential diagnosis in case of lump or chronic discharge at port sites particularly when associated with the use of non-absorbable suture.

Omphalolith is very uncommon and denotes a calcular lesion of umbilicus. The term is derived from Greek ('omphalos' meaning navel; 'lithos' meaning stone) and various synonyms mentioned in literature include omphalokeratolith, umbilical bolus, inspissated umbilical bolus, navel stone, umbilical concretion and umbolith.(21) Omphaloliths are generally asymptomatic (22) and may present clinically only when complicated by infection or inflammation or infection resulting in symptoms like relapsing discharge, redness or pain. Our management of three cases was in line with the

recommendations from literature which includes non-invasive evacuation of the concretion and cleansing of the umbilicus. Histopathology confirms the diagnosis and reveals mass of stratified corneocytes.(23)

Other lesions managed in our series included common cutaneous diseases including sebaceous cysts, lipomas, scars and cutaneous polyp.

Conclusion:

Umbilicus is an important land mark and can harbour a wide range of lesions and hence it is important for the physicians to be aware of umbilical disorders. A significant proportion of umbilical lesions can be managed under local anaesthesia in minor operating room or day care settings.

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