www.asiassam.org

Volume 29 | No 1 | July 2022- October 2022

ISSN 2347-811X

JASA

Official Journal of Assam State Chapter of ASI

JASA

The Journal of Association of Surgeons of Assam

JASA, The Journal of Association of Surgeons of Assam

JASA, The Journal of Association of Surgeons of Assam (Assam Chapter of Association of Surgeons of India), Vol 29, No.1, July 2022 – October 2022. Edited by Manoj Saha and published by the Association of Surgeons of Assam, Guwahati 781032, Assam. The opinions expressed and conclusions drawn in the articles are those of the authors solely and not necessarily reflections of the editorial board or publisher of JASA.

The Journal of Association of Surgeons of Assam (JASA)

Volume 29, No.1, July 2022 to October 2022

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Price : Rs 200/- (Rupees two hundred only)

Volume 29 | No 1 | July 2022- October 2022 ISSN 2347-811X

The Journal of Association of Surgeons of Assam (ASA)

Official Journal of Assam Chapter of Association of Surgeons of India (ASI)

The Journal of
Association of Surgeons of Assam
Official Journal of Assam State Chapter of ASI

CONTENTS

Editorial

Lost boys: the circumcision tragedy

Manoj Saha

Circumcision is a surgical procedure performed upon newborn baby boys in the United States once every seven seconds [1], three thousand times a day, over a million times a year.

Many infants die due to circumcision. Deaths occur usually due to blood loss, sepsis from the circumcision wound or due to anaesthetic complications.

There are several newspaper accounts of boys who have died after circumcision. But it is tactfully under-reported in medical literature. Doctors are highly motivated to conceal the true cause of circumcision death. Consequently, most doctors who have a baby die after a circumcision would prefer to attribute the results of his unethical operation to secondary causes, such as infection or bleeding, while ignoring the primary cause, which is the circumcision that resulted in the infection or bleeding.

It is, therefore, very hard to identify the total number of deaths that occur from circumcision. One senses that one may be seeing only the "tip of the iceberg," with the vast majority of deaths from circumcision being concealed.

But several doctors have given estimates of the number of deaths that occur each year. Douglas Gairdner reported 16-19 actual deaths a year in England and Wales from neonatal circumcisions in the 1940s [2]. Sydney Gellis believed that "there are more deaths from complications of circumcision than from cancer of the penis [3]. Robert Baker estimated 229 deaths per year from circumcision in the United States [4]. Bollinger estimated that approximately 119 infant boys die from circumcision-related each year in the U.S. (1.3% of all male neonatal deaths from all causes) [5].

Many African tribes have initation ceremonies in which a youth or young man is initiated into manhood. The youths are sent to a camp in a remote area where initiation ceremonies, including circumcision, take place. The circumcisions are carried out by persons without medical training. African tribal ritual circumcision produces reports of death or serious injury every year. The Mail and Guardian reports seven dead in the Fall of 2003 and a total of 250 dead since 1995 [6].

Despite the abundant evidence of death from circumcision related causes, the March 2009 Circumcision Policy Statement of the American Academy of Pediatrics omitted any mention of possible death from circumcision related causes, thereby helping to keep American parents uninformed of the possibility of death following circumcision.

Neither the American College of Obstetricians and Gynecologists (ACOG, 2001), nor the American Medical Association (AMA, 1999) mentions death as a possible outcome of the surgery in their policy statements on circumcision.

The American Academy of Family Physicians (AAFP, 2002) statement says death is possible, but (according to this study's findings) significantly underreports the risk as 1/500,000.

Death certificates typically do not list circumcision as the immediate or leading cause of death and rarely list circumcision as an underlying cause. Incomplete and inaccurate death certificates for children are a common phenomenon (Cunniff, Carmack, Kirby, & Fiser, 1995). Thus, many circumcision-related deaths are more often

reported as surgical mishap, infection, hemorrhage, cardiac arrest, stroke, reaction to anesthesia, or even parental neglect. In 2008, 6-week-old Native American Eric Keefe died from massive blood loss. Hospital officials claimed his circumcision was not to blame, but instead faulted the parents because they had administered over-the-counter pain medication that, they also claimed, thinned his blood. The parents were not told about this possible complication (Verges, 2009). Since then the hospital has stopped performing infant circumcisions [7].

A study by Dr. Douglas Gairdner in 1949 [8] included deaths due both to surgery and to ensuing complications. He reviewed case histories of 90,000 circumcisions for boys under five years old from 1942 to 1947 in England and Wales, identifying 95 deaths attributable to circumcision. This was considered a definitive study in the United Kingdom, and led the British government to deem infant circumcision an unnecessary and nonreimbursable medical procedure.

The silence of human-rights, men's-rights, women's-rights, and children's-rights groups concerning these deaths is shocking. It might indicate that they are unaware of the problem, or that they wish to appear politically correct in regard to religious circumcisions.

Not only will parents of a dead boy be in shock, but also potentially embarrassed, by what seems now to have been a whimsical choice for their infant. They retract themselves into protective silence to defend their choice despite their loss. Many parents sign consent because they fear being regarded bad parents, rather than considering what is in the best interests of their son.

Circumcision is a $2 billion healthcare market in US (Fauntleroy, 2001). To hospital residents, the birth of a boy is celebrated as an opportunity to practice surgery. A resident's first surgery upon a live human being does not always go as planned—especially when the patient is a screaming, thrashing baby.

In the United States, the coroner (who, usually a male, is probably circumcised) is not likely focus on and record the fact that his or her colleague performed an unnecessary and nontherapeutic surgery that resulted in the death of an infant.

But physicians are less likely to circumcise their sons than the general populace (Topp, 1978), suggesting that they know it is an unnecessary surgery, but don't relay this valuable information to parents.

Circumcision originated before the dawn of history. There was no knowledge of sanitation or the need for a sterile operating environment. Jews have traditionally performed circumcision on the eighth day after birth for many thousands of years. The medical literature was still reporting numerous deaths from ritual circumcision in the early twentieth century [9,10]. There must have been vast numbers of babies who died under those conditions through the centuries. Jewish law allows parents who have had three sons die from circumcision to leave the fourth son intact [11]. In India scenario is slightly different as most of the parents do not opt for infantile circumcision and good number of religious circumcision are done in healthcare setup.

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Original Article

Factors Affecting Early Post-Operative Complications in Abdominal Surgery

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J Asssoc Surg of Assam 2022;1: 8-11

JASA
The Journal of Association of Surgeons of Assam
Volume 29, No.1,
July 2022 to October 2022

Abstract :

Post operative complications result in significant morbidity and mortality.Early identification of factors affecting post-operative complications allows targeted, anticipatory care to reduce the incidence. The aim of this study was to identify the factors responsible for early post-operative complications in abdominal surgery.Materials and Methods: This single centre prospective study comprised of 200 patients who had undergone either elective or emergency abdominal surgery in a period of one year. Patients were selected from age group of 18 to 60 years of both the sexes. All collected data was entered into a proforma and the data was analysed by using the software InStat. Chi-Square or Fisher's exact tests were performed to find out significant association between various parameters.P value <0.05 was considered statistically significant.Results: There were 118 (59%) female and 82(41%) male patients in the study group with 76(38%) patients under the age group of 40 and 124(59%) patients were above this age group. Post-operative complications occurred in 50(25%) of cases. Male Patients (p value 0.0079) above 40 years of age (p value 0.0116), emergency surgery (p value 0.0083), Obesity (p value0.0005), anaemia (p value 0.0023), hypoalbuminemia (p value0.0060), prolonged surgery (p value 0.0104), intra-operative blood transfusions (p value<0.0001),ASA grade V influences the post operative morbidity. Conclusions: Elderly male with high ASA grade, emergency and prolonged duration of surgery were associated multiple post operative complications. Anaemia, hypoalbuminemia, obesity, intraoperative blood transfusions were found to be influencing factors. Multiple factors were involved in development of some complications.

Key words: Emergency Surgery-Anaemia-Obesity- Hypoalbuminemia-Complications

A surgical complication is defined as any undesirable, unintended and direct result of an operation affecting the patient that would not have occurred had the operation gone well as could be reasonably hoped [1]. The occurrence of operative complications is equated with the cure rates or relief of the symptoms. The incidence of major complications following surgery has been reported as up to 22% with mortality up to 0.8%. It is estimated that 187-281 million surgical procedures are performed globally each year, at least 7 million patients will suffer serious complications as a consequence of surgery and that 1 million patients may die as a result [2]. Early identification of factors affecting post-operative complications allows targeted, appropriate and anticipatory care, which, in turn reduces the incidence and severity of complications. The aim of this study was to determine the factors responsible for early post-operative complications following abdominal surgery, and thereby to know which factors have a crucial role in the occurrence of these complications.

Materials and Methods: This study was conducted in the department of General Surgery, Gauhati Medical College Hospital. This single centre prospective study comprised of 200 patients who had undergone either elective or emergency abdominal surgery in a period of one year. Patients were selected from age group of 18 to 60 years of both the sexes. Patients with any known systemic diseases such as diabetes mellitus, systemic hypertension, known immunodeficiency disorders, haematological malignancies were excluded. Patients were evaluated for haematological biochemical, hepatic, renal, cardiac, thyroid functions with radiological assessment. Morbidity noted in first 48 hrs post operative were considered early complications. All collected data was entered into a proforma and the data was analysed by using the software In Stat. Chi-Square or Fisher's exact tests were performed to find out significant association between various parameters. P value <0.05 was considered statistically significant.

Results:

There were 118 (59%) female and 82(41%) male patients in the study group with 76(38%) patients under the age group of 40 and 124(59%) patients were above this age group. Post-operative complications occurred in 50(25%) of cases.The complications were found to be higher in the age group $\geqslant$ 40 (p-value = 0.0116, RR = 1.195, [95% CI = 1.188-3.087] which is statistically significant. There were 29 male(35.4%) and 21 female patients(17.8%) presented with complications. The post-operative complications were higher in male sex ascompared to female sex (p-value = 0.0079, RR = 1.987, [95% CI = 1.222-3.231]which is statistically significant. In the study group there were 50(25%) emergency abdominal surgery and 150 (75%) elective surgery. Complications occurred in 20(40%) of emergency and 30(20%) elective surgery. The complications rate in emergency surgery were higher compared to that of elective surgery (p-value = 0.0083, RR = 2.000, [95% CI = 1.254-3.189]. In this study, it was observed that post-operative complications were higher in the group with pre-operative anaemia(p-value = 0.0023, RR = 2.298, [95% CI = 1.442-3.661], pre-operative hypoalbuminemia (p-value = 0.0060, RR = 2.251, [95% CI = 1.386-3.655]. The post-operative complications were higher in the group with pre-operative obesity (p-value = 0.0005, RR = 2.704, [95% CI = 1.709-4.279].

Sl Nos	Description	No of cases (%) with complications	P Value
1	EMERGENCY SURGERY	20(40%)	0.0083
2	PRE-OPERATIVE ANEMIA (Hb< 10 gm/dL)	16 (47.05%)	0.0023
3	PRE-OPERATIVE HYPOALBUMINEMIA (Albumin < 3.5 gm/dL)	13(48.14%)	0.0060
4	PRE-OPERATIVE OBESITY (BMI $\geqslant$ 30 kg/m2)	13 (56.5%)	0.0005
5	INTRA-OPERATIVE BLOOD TRANSFUSION	20(58.8%)	0.0001
6	OPERATING TIME > 2 HOURS	18(40.9%)	0.0104

Table1: Influencing Factors in development of early Post operative complications.

Sl Nos	Complications	Emergency (20)	Elective (30)	P value
1	Wound complications	16	13	0.0225
2	Chest	8	3	0.0308
3	Cardiac	8	2	0.0115
4	Renal	8	2	0.0115
5	Bleeding	6	01	0.0247
6	Leak/Fistula	10	03	0.0047
7	Dyselectrolytemiea	11	06	0.0241

Table2: Descriptions of Complications

The post-operative complications were higher in the group whichreceived intra-operative blood transfusion (p-value = 0.0001, RR = 3.255, [95% CI= 2.119-4.999]. The post-operative complications were higher in the group which had an operating time> 2 hours $\leqslant$ 2 hours (p-value = 0.0104, RR = 1.994, [95% CI = 1.245-3.193]). Demographic details, influencing factors and various post operative complications encountered in the study group are shown in table 1,2.

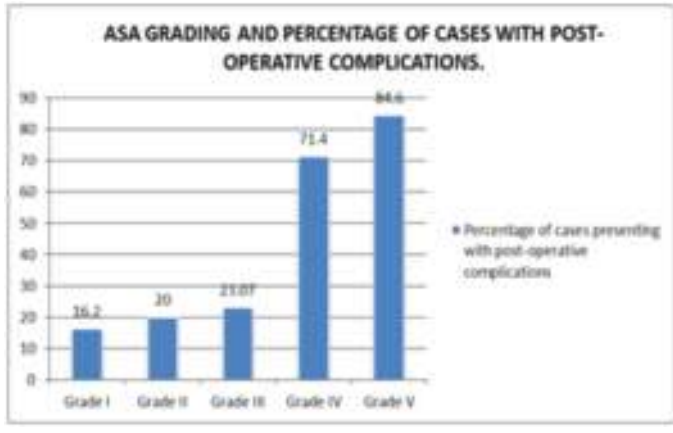

Fig :1: ASA grades and rate of complications.

It was observed that the least number of post-operative complications occurred in ASA Grade I (16.2%). The maximum number of post-operative complications occurred in patients(84.6%)with ASA Grade V (Fig 1). Multiple factors were involved in development of some complications.

Discussion:

In the present study, a total of 200 cases that were included. Post-operative complications noted in 50 cases. The rate of complications was 25% which was similar to other study [3,4,5]. The post-operative complications were found to be higher in the age group $\geq$ 40years as compared to the age group < 40 years [4,5]. The post-operative complications were higher in male as compared to female sex [6,7]. The rate of seroma, wound dehiscence and SSI were found to be in the range of 5.5%, 0.5% and 8.5% respectively. It was observed that post-operative wound complications were higher in emergency surgery (14%) which was similar to other study [8,9].Post-operative pulmonary complications were higher (5.5%) in emergency surgery which was similar to other study [10,11].Renal complications, dyseletrolytemia were higher in emergency surgery [12,13,14,15]. Post operative bleeding was found to be more following emergency surgery [16,17].Pre-operative anaemia was found to be one of the significant factors in development of post operative complications [18,19]. Similarly pre-operative hypoalbuminemia contributes significantly in occurrence

of complications. [20,21,22]. Similarly, obesity had significant contributions in development of complications [23,24].The Least number of post-operative complications were observed in ASA Grade I while ASA Grade V had higher complications [25,26].The post-operative complications were higher in the group which received intra-operative blood transfusion [27,28,29].In the present study, it was observed that post-operative complications were higher in the group with operating time > 2 hours [30,31].

Conclusions: Elderly male with high ASA grade, emergency and prolonged duration of surgery are associated multiple post operative complications. Anaemia, hypoalbuminemia, obesity, in traoperative blood transfusions are influencing factors in development of post operative complications. Optimization of these factors may result in reduction of post operative morbidity to a large extend.

Limitations: This study was conducted in a single centre with relatively small group of patients in one category of surgery. Multiple centre study with large cohort of patients' population may influence the results and observations.

Fundings: None

Ethical Issues: Approved by Institutional ethics committee.

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Original Article

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J Asssoc Surg of Assam 2022;1: 12-16

JASA
The Journal of Association of
Surgeons of Assam
Volume 29, No.1,
July 2022 to October 2022

Management of Saphenofemoral Junction (SFJ) Incompetence in Varicose Veins: Simple High Ligation With or Without Stripping

ABSTRACT

Background:

Much emphasis has been placed on the proper method of high sapheno-femoral ligation, which involves meticulously locating, ligating, and splitting all of the long saphenous vein's (LSV's) tributaries as they join the vein in the groin. The present study is conducted to compare the outcomes of varicose vein surgery with and without striping.

Objectives:

1. To evaluate the distribution (age, sex, occupational), precipitating factors andcomplications of varicose veins of lower limbs.

2. To assess and compare postoperative outcome of Sepheno-femoral Junction(SFJ) Incompetence in Varicose Veins by doing Simple High Ligation With and Without Stripping.

Materials and Methods

All patients visiting Surgery out patients department or admitted to the surgery wards at Gauhati Medical College Hospital, Guwahati with varicose vein during the period from 1st June, 2020 to 31ST May 2021 were taken into study, considering the inclusion and exclusion criteria. Study duration being 12 months, patients were followed up within that period and looked for short term post-operative outcome.

Results and Observations

Fifty patients were taken up for the study. Saphenofemoral ligation (SFJ) was done in all the cases. Two groups were made; 25 of the cases were managed with SFJ ligation and stripping of long saphenous vein upto knee joint, whereas 25 other cases were managed with SFJ ligation without stripping. The results are tabulated with graphs. Most commonly affected age group was 41 to 50 years. The commonest symptoms were cosmetic disfigurement in 21 cases.

Conclusion

There are different modalities of treatment for varicose veins. Saphenofemoral junction flush ligation with ligation of all tributaries with stripping of long saphenous vein upto knee joint is the best treatment in this study. It is an easy, effective and definitive method of treatment.

Keyword

Varicose, long saphenous vein, Communicating or perforating vein, Stripping

Over 80% of varicose veins are caused by valvular incompetence of the long saphenous system, and most surgeons choose between a simple high ligation of the SFJ followed by avulsion of the varicosities or the same treatment followed by extra LSV stripping. Since the nineteenth century, when it was discovered that removing the LSV effectively removed the vein's tributaries from the defective trunk, it has been acknowledged as a beneficial technique.

Keller, a San Francisco army surgeon, described a revolutionary technique in 1905 in which a ligature was passed up the length of the vein on a wire, fastened to the vein's top, and then drawn downward.[1]The next year, Mayo Clinic in Rochester recorded 185 varicose vein procedures, many of which involved subcutaneous excision of the LSV with a purpose-built "ring vein-enucleator." [2]

Saphenous incompetence is a process that begins at the SFJ and propagates downward, a condition sometimes attributed to gravity as a result of man's upright posture. Abu-Own et al. revealed that lengthy saphenous incompetence occurs in up to one-third of cases when a competent SFJ is present. [3]

Munn et al. treated 100 patients with bilateral SFJ incompetence in a New Zealand trial. [4] Observers determined that twenty of the stripped limbs had a "better" outcome compared to six of the unstripped limbs. Sarin et al. observeded 89 limbs from 69 patients suffering from LSV incompetence. [5]

Dwerryhouse et al. published a comparable study involving 78 patients in 1999. [6] This revealed a much lower rate of reoperation in patients having LSV stripping—6%, compared to 20% in those undergoing high SFJ ligation alone.

A subsequent investigation by Jones et al. reached similar outcomes. [7]100 patients were randomly assigned. After two years, 43% of those who had not undergone LSV stripping had recurrent varicose veins, compared to 25% of those who did undergo striipping.

Woodyer and Dormandy concluded the opposite—that removing the LSV was a surgical dogma-based operation that conferred no subjective improvement on the people treated. [8] A more recent investigation of Quality of Life (QoL) levels following LSV stripping revealed a statistically significant improvement in scores for both successful and unsuccessful LSV stripping. [9]

The present study is conducted to compare the outcomes of varicose vein surgery with and without striping.

Objectives:

1. To evaluate the distribution (age, sex, occupational), precipitating factors and complications of varicose veins of lower limbs.

2. To assess and compare post operative outcome of Sepheno-femoral Junction(SFJ) Incompetence in Varicose Veins by doing Simple High Ligation With and Without Stripping.

Materials and Methods

All patients visiting Surgery out patients department or admitted to the surgery wards at Gauhati Medical College and Hospital, Guwahati with varicose vein during the period of 1st June, 2020 to 31st May 2021 were taken into study, considering the inclusion and exclusion criteria. Study duration being 12 months, patients were followed up within that period and looked for short term post-operative outcome.

Inclusion Criteria

All patients above 12 years with primary varicose vein, occurring in the lower limb are included in this study.

Exclusion Criteria

Varicose veins occurring in other parts of the body except lower limb are excluded in this study, age of Patients less than 12 years, Varicose vein co-existing with diabetesmellitus, secondary varicose vein, recurrent varicose vein and patients with previous surgery over the limb that can cause chronic pain or venous insufficiency.

After explaining the procedure and getting informed consent from the patients, they were subjected to one of the two types of surgical treatment modality.

Group I

In one group 25 patients underwent **Trendelenburg procedure** by making a transverse incision of length 3cm just below the groin crease. The incompetent perforators in the thigh and leg are ligated and divided subfascially by making small transverse incision across the path of the vein at the site of incompetent perforators marked preoperatively. Then the long saphenous vein is stripped from groin to just below the knee by passing stripper into thevein.

Group II

In the other group 25 patients underwent **Trendelenburg procedure,** done by making a transverse incision of length 3cm just below the groin crease. The incompetent perforators in the leg are ligated and divided subfascially by making small transverse incision across the path of the vein at the site of incompetent perforators marked preoperatively. In both groups the wounds closed with good hemostasis, limb elevated and elastocrepe bandage applied.

All the patients were followed in the postoperative period and for a period of next six months.

Results and Observations

Total 50 patients were taken up for the study. Two groups were made, 25 of the cases were managed with SFJ ligation and stripping upto knee joint, whereas 25 other cases were managed with SFJ ligation without stripping. The results are tabulated with graphs as:

A) TABLES ON ETIOLOGY OF VARICOSEVEINS

		N	%
Age in years	12-20	0	0%
	21-30	2	4%
	31-40	13	26%
	41-50	21	42%
	51-60	14	28%
Sex	Female	15	30%
	Male	35	70%
Side of the Limb Involved	Bilateral	4	8%
	Left	33	66%
	Right	13	26%
Signs & Symptoms	Aching	10	20%
	Cosmetic Disfigurement	21	42%
	Swelling	12	24%
	Ulcer	7	14%
Venous System Involved	LSV	8	16%
	LSV & SSV	38	76%
	SSV	4	8%
Perforators Involved	Hunterian Canal Perforator	18	20%
	DODD	15	16%
	BYOD	16	18%
	COCKETT	32	35%
	Ankle Perforator	10	11%

It was observed that most of the patients belonged to age group 41-50 years (42%), followed be 51-60 years (28%) The mean age of the study population was 40.0±11.0 years.

Out of 50 patients, 30% were female and 70% were males.

Out of 50 patients, 42% had cosmetic disfigurement, 24% had swelling, 20% had aching, and 14 % had ulcer.

Out of 50 patients, 76% had LSV & SSV, 16% had LSV, 8% had SSV incomptence.

Out of 50 patients, **HUNTERIAN CANAL PERFORATOR** was observed in 20% patients, DODD in 16%, **BYOD** in 18%, **COCKETT** in 35%, Ankle perforator in 11% patients.

B) INVESTIGATIONS:

INVESTIGATIONS	N	%
DUPLEX ULTRASOUND	47	94%
DUPLEX USG & OTHERS	3	6%
Grand Total	**50**	**100%**

Most of the cases were taken up for surgery based on Duplex Ultrasonography. In a few cases plain doppler was done. Other investigations are done as per proforma. Only Duplex Ultrasound was performed in 94% patients, out of 50. Duplex USG along with other investigations was performed in 6% patients.

C) MANAGEMENT :

As already mentioned earlier, the study mainly focuses on the surgical management of varicose veins, i.e. saphenofemoral junction ligation (SFJ) with and without stripping. The SFJ is ligated and along with it all the 3 tributaries namely, Superficial Circumflex Iliac, Superficial Epigastric, Superficial External Pudendal veins are ligated too. First 25 of the cases were managed with SFJ ligation and stripping upto knee joint, whereas 25 other cases were managed with SFJ ligation without stripping. Post operatively the patients are followed up for 1 year of which maximum cases were followed up for a period of 6 months. The inference drawn in the post operative period are tabulated as follows:

		Stripping		Without stripping		Total		P
		N	%	N	%	N	%	
Bruising	ABSENT	23	92%	24	96%	47	94%	0.5512
	PRESENT	2	8%	1	4%	3	6%	
Hematoma In Thigh	HAEMATOMA	3	12%	2	8%	5	16%	
	NO	22	88%	23	92%	45	84%	0.6375
Deep Vein Thrombosis	ABSENT	25	100%	25	100%	50	100%	
	PRESENT	0	0%	0	0%	0	0%	0
Sensory Nerve Injury	ABSENT	25	100%	24	96%	49	98%	0.3125
	PRESENT	0	0%	1	4%	1	2%	
Ambulation On First Day	COMFORTABLE	23	92%	20	80%	43	86%	0.7361
	PAINFUL	2	8%	5	20%	7	14%	
Post Operative Hospital Stay	<7 DAYS	24	96%	23	92%	47	94%	0.551
	>7 DAYS	1	4%	2	8%	3	6%	
Healing Good/Delayed	DELAYED (>7DAYS)	1	4%	3	12%	4	8%	0.6212
	GOOD (<7DAYS)	24	96%	22	88%	46	92%	
Post Operative Infection	ABSENT	25	100%	24	96%	49	98%	0.312
	PRESENT	0	0%	1	4%	1	2%	
Pain Relief After 2 Month	NOT RELIEVED	1	4%	6	24%	7	14%	0.103
	RELIEVED	24	96%	19	76%	43	86%	
Return To Normal Activities	<3 MONTHS	0	0%	2	8%	2	4%	0.148
	WITHIN 3 MONTHS	25	100%	23	92%	48	96%	
Recurrence	ABSENT	25	100%	25	100%	50	100%	
	PRESENT	0	0	0	0	0	0	

Out of 50 patients, bruising was present in only 6%. In the group with without stripping, bruising was present in 4% patients and 8% in the group with stripping.

Hematoma in thigh was observed in only 2(8%) subject without stripping whereas it was observed in 12% patients with stripping.

Deep Vein Thrombosis was not present in any of the patients in both groups with stripping and without stripping. This may be due to short period of follow up.

Sensory Nerve injury was present in only 2% patients out of 50. In the group without stripping, no sensory nerve injury was observed. In the group with stripping, 4% patients presented sensory nerve injury. The sensory nerve injury is probable due to the injury of the saphenous and sural nerve.

Out of 25 patients 2(8%) patients had painful ambulation, in the group with stripping, while 5(20%) patients without stripping had painful ambulation on the first day of surgery. No Significant association was observed between presence of pain on the first day of ambulation and type of treatment as $p>0.05$. Though ambulation was done on Day 1, the patients were not allowed to move from bed and were only mobilized on the beditself.

At 48 hours after surgery, the mean Visual Analog Score for Pain was observed to be significantly less in the group with stripping compared to the group without stripping, as $P<0.05$.

Post operative hospital stay was less than 7 days in 96% of the patients with stripping and 92% of the patients without stripping. No significant association was observed post operative hospital stay and type of treatment as $p>0.05$.

The mean hospital stay of the patients with stripping was less than those without stripping, however the difference was not statistically significant as $p>0.05$.

Out of 25 patients, only 1(4%) subject with stripping had delayed healing (>7 Days), while 12% patients had delayed healing (>7 Days) in the group without stripping. No Significant association was observed between presence of duration of healing and type of treatment as $p>0.05$.

Post operative infection as is not present in any of the 25 subject with stripping, while post operative infection was present in 1(4%) subject without stripping. No significant association was observed between post operative infection and type of treatment ($p>0.05$).

At 2 month follow-up, it was observed that, in the subject with stripping, 96% were relieved of pain, while in the group without stripping, 76% were relieved of pain. No significant association was observed between relief of pain at 2 months follow-up and type of treatment ($p>0.05$).

At 3 month follow-up, it was observe that 100% subject with stripping returned to their normal activities, while 92% of the patients without stripping returned to normal activities. No significant correlation was observed between ability to return to normal activities at 3 months and type of treatment as $p>0.05$.

No recurrence was observed in the patients of any group. This may be because the study was for a period of 1 year and most of the patients

were followed-up for a period of 6 months.

DISCUSSION

The age range in our study is from 23 to 55 years. Malhotra et al (1972)[10] reported 677 patients in their study, with an age range of 18-65 years. West Wright et al (1989) [11] studied 1338 patients in England, age ranged from 20 to 75 years. Pavan Prasad BK and PremKumar(2015) [12] discovered that the most usually affected cases (12 (24%)) were between the ages of 31 and 40. Hazarika D and Choudhury DN (2018) discovered in their study that the most usually afflicted age group was 21 to 40 years. [13]

Out of 50 patients 30% were female. The male to female ratio in our study was determined to be 7:3. In Switzerland, Widmer (1978) [14] recorded a male female ratio of 1:1. In Pavan Prasad BK and Prem Kumar's (2015) study, 39 of the 50 cases (78 percent) were male, with just 11 female patients (22 percent), with a roughly 4:1 ratio. [12]

The majority of the patients were found to have varicose veins on their left legs (66 percent). Out of 50 patients, 26% had varicose veins on their right leg and 8% had varicose veins on both legs. A. H. M. Dur, A. J. C. Mackaay, and colleagues (1992) [14] discovered that 51.45% of participants had varicose veins in their left legs. Ravikumar B. L et al. (2014) discovered that the left lower limb was involved in 35 (70%) of the cases and the right lower limb was implicated in 15 (30%) of the cases. [16]

Out of 50 patients, 42 percent suffered cosmetic deformity, 24% had swelling, 20% had hurting, and 14% had ulcer. This finding is consistent with other research conducted by Campbell et al (2006), in which cosmetic symptoms were found in 90% of the cases. [17]

The major non-invasive approach of diagnosing chronic venous insufficiency is Doppler/Duplex scanning, which has an overall accuracy of 88 percent, according to a research by Masuda et al. (1992).[18] In the current investigation, Duplex Ultrasound identified reflux in 47 (94 percent) of 50 individuals. This finding is consistent with Pavan Prasad BK and PremKumar(2015),[12] who demonstrated that duplex scanning had an overall accuracy of 94%.

Bruising was found in 4% of patients in the non-stripping group and 8% in the stripping group. Hematomas in the thigh were found in just 2 (8%) of the subjects who did not have stripping, but hematomas in the thigh were found in 13% of the patients who had stripping. Nisar A et al. (2006) discovered that hematoma formation occurred in 24 percent of patients. The increased incidence of hematoma formation in the thigh in stripping patients was attributable to tissue damage during venous stripping. [19]Natraj et al(2020) [20] observed haematoma in 28 percent of participants with stripping and 4 percent of subjects without stripping, which is consistent with the current study.

Deep Vein Thrombosis DVT) was not found in any of the patients in either the stripping or non-stripping groups in this investigation. This could be owing to the brief length of follow-up. Munn et al (1981) [4] found no DVT in their analysis of 57 patients.

There was no significant relationship between post-operative hospital stay and kind of treatment. This outcome was consistent with the findings of Natraj et al (2020).[20]

There was no significant relationship found between post-operative infection and kind of treatment. Munn et al (1981)[4] discovered that 33% of the participants developed infections, and there was a substantial difference in infection rates between groups with and without stripping. Munn et al concluded that the group that received stripping was substantially more infected.

There was no significant correlation between pain relief and therapy type at the 2-month follow-up ($p>0.05$). Natraj et al (2020) also found no statistically significant changes in pain after two months of follow-up.[20]

Conclusion:

It is found that varicose veins and their associated symptoms and complications constitute the most common chronic vascular disorders leading to surgical treatment. Patients presented with spectrum of symptoms and signs. Long saphenous system is the most common venous system affected with above ankle (lower leg) perforator being the most common incompetent perforators. The outcome of cases of primary varicose vein depends on a thorough and complete clinical examination and duplex scan by an experienced radiologist.

The present study concludes that the stripping of varicose veins upto knee joint along with flush ligation of SFJ is a better alternative to flush ligation of SFJ alone although further studies are needed in this aspect.

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Original Article

Clinical Outcome Of Management Of Acute Cholecystitis Following Tokyo Guidelines

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J Asssoc Surg of Assam 2022;1: 17-22

JASA
The Journal of Association of Surgeons of Assam
Volume 29, No.1,
July 2022 to October 2022

ABSTRACT

BACKGROUND : Acute cholecystitis is one of major causes of acute abdomen worldwide. It was once considered a contraindication for cholecystecctomy. However, the Tokyo Guidelines were established to determine timing of surgery for acute cholecystitis depending on the severity, showing a clear benefit in performing early rather than delayed cholecystectomy. The aim of the study is to categorize the patients of acute cholecystitis into various grades according to Tokyo Guidelines and outcome of management following the guidelines.

MATERIALS AND METHODS: A prospective study of 100 patients with acute cholecystitis was carried out over a period of 15 months in the Department of General Surgery, Gauhati Medical College. Diagnosis of acute calculus cholecystitis was made based on the clinical examination, laboratory investigations and ultrasonography. The severity and management were based on the Tokyo Guidelines. The outcome were measured with respect to conversion rate, length of hospital stay and postoperative complications.

RESULTS: The mean age was 47.9±13.3 years with a female preponderance. Most common presenting symptom was pain with majority of the patients presenting within 72 hours. Pain abdomen was seen in 86 patients, however, right hypochondriac/ epigastric tenderness was elicited in 90 patients. Thickening of gallbladder was the most common ultrasonographic finding (n=66). All patients of Grade I (n=32) and II (n=66) underwent surgery and majority of them were operated after 72 hours but within 7 days (n=73). For all patients the length of hospital stay was found to increase with severity (Grade I vs II vs III = 6 vs 9 vs 13 days). For surgical patients (n=98), the conversion rates ($p=0.085$), duration of surgery ($p<0.001$) and number of post-operative complications (5 vs 1) were found to increase with increasing TG13 grade.

CONCLUSIONS: Tokyo guidelines allows early diagnosis and categorization of patients into various grades. The clinical outcome of patients when managed according to the guidelines produced desirable results in acute cholecystitis.

Keywords : Acute cholecystitis, Tokyo guidelines.

Cholelithiasis is the most common disease of the gallbladder and biliary tree, affecting 10-15% of the population. [1-4] Acute cholecystitis was once considered a contraindication for laparoscopic cholecystectomy. [5,6] Laparoscopic cholecystectomy (LC) for acute cholecystitis has evolved over the past three decades. For acute cholecystitis in general, early cholecystectomy is associated with lower complication rates, shorter hospital stay, lower costs and higher patient satisfaction. [7-12]

Tokyo Guidelines were published in the year 2006 in an attempt to obtain a clear classification and treatment algorithm for acute cholecystitis. [13-18] The 1st Edition of Tokyo Guidelines was then revised in 2013 which provides a better specificity and higher diagnostic accuracy. TG13 was used to classify acute cholecystitis into different severity grades and management of the various grades. It has been associated with parameters such as overall mortality, length of hospital stay, conversion rates to open surgery and postoperative complications.[19-27]

MATERIALS AND METHODS :

This was a prospective study on 100 patients of acute cholecystitis who presented to the Out Patient Department and Emergency Department of Gauhati Medical College Hospital were admitted in the Department of Surgery. The study was carried out over a period of 15 months from 1st April 2020 to 30th June 2021. Study was carried out after clearance from Institutional Ethics Committee and after taking informed consent from the patients.

A diagnosis of acute cholecystitis was based on history and clinical examination with confirmatory radiological studies such as intra-abdominal ultrasound. Patients with confirmed findings were classified according to the Tokyo Guidelines 2013 into various grades of severity (Table 1).

Data collected from the chart review included demographics, co-morbid conditions, duration of symptoms, presentation characteristics, diagnostic workup e.g. ultrasound findings, treatment and outcome. According to the TG13 criteria, we performed cholecystectomy on all patients of grade I and II severity whereas patients of grade III were managed conservatively. All Grade I and majority of Grade II patients were planned for Laparoscopic Cholecystectomy. Surgery was performed either within 72 hours or after 72 hours and within 7 days from onset of symptoms. Outcome was seen with respect to conversion rate, length of hospital stay and postoperative complications.

Surgical Procedure-

All the surgeries were done by consultant and under general anesthesia.

Laparoscopic cholecystectomy: Pneumoperitoneum was first created by using Veress needle technique or Open Hassons technique through a 10 mm periumbilical region. After attaining an intra-abdominal pressure of 15 mmHg laparoscope is introduced and three othe ports were made; a 10 mm epigastric port, and two 5 mm ports; one in the midclavicular line and second along the anterior axillary line. Initial dissection of adhesions was done followed by dissection around the Calot's triangle to expose the Cystic Duct, Cystic Artery and to obtain the critical view of safety. Both the structures were then clipped separately and divided. The gallbladder dissected off the gallbladder fossa using electrocautery hook. The gallbladeer was the removed from epigastric port. Haemostasis was achieved and drain was placed whenever clinically indicated. Conversion was done through subcostal incision whenever indicated.*Open Cholecystectomy:* A right subcostal Kocher's incision is made and abdomen is ope[\ned. Gallbladder is the retracted cephalad by holding the fundus with a pair of forceps. The peritoneum over the hepatocystic triangle is incised and fibrofatty tissue is swept and dissection carried till the cystic duct and artery are visualized; which are then separated ligated and divided. The gall bladder is then removed from the fossa and heamostasis is achieved. Drain again is placed if clinically indicated.

Statistical Analysis:

The statistical software namely SPSS 21.0 and Instat were used for analysis. Results on continuous variables are presented on Mean ±SD, Median and categorical variables were presented in Number (%).

Table 1 : TG13 diagnostic and severity grading for acute cholecystitis.

DIAGNOSIS

A	LOCAL SIGNS OF INFLAMMATION(Signs and Symptoms)
A-1	Murphy's sign
A-2	Right upper quadrant mass/ pain/ tenderness
B	SYSTEMIC SIGNS OF INFLAMMATION
B-1	Fever
B-2	Elevated CRP
B-3	Elevated WBC count
C	ULTRASONOGRAPHY±SCINTIGRAPHY
C-1	Thickening of gallbladder
C-2	Enlarged gallbladder
C-3	Debris ECHO
C-4	Gas imaging
C-5	Ultrasonographic Murphy's sign
C-6	Pericholecystic fluid.

SUSPECTED DIAGNOSIS: One item in A+ One item in B

DEFINITE DIAGNOSIS: One item in A+ One item in B+C

SEVERITY

Grade	Criteria
I /Mild	Acute cholecystitis that does not meet the criteria for a more severe grade
	Mild gallbladder inflammation, no organ dysfunction
II /Moderate	The presence of one or more of the following: 1. Elevated while blood cell count (>18,000/mm3)
	2. Palpable tender mass in the right upper abdominal quadrant
	3. Duration of complaints >72 h
	4. Marked local inflammation (biliary peritonitis, pericholecystic abscess, hepatic abscess, gangrenous cholecystitis, emphysematous cholecystitis)
III / Severe	The presence of one or more of the following:
	1. Cardiovascular system: Hypotension requiring dopamine >5 µg/kg/min or any dose of dobutamine
	2.Nervous system: Decreased level of consciousness
	3. Respiratory system: PaO2/FiO2 ratio <300
	4. Renal system: Serum creatinine >2.0 mg/dL
	5. Liver: PT INR >1.5
	6. Hematologic system: Platelet count <100,000/mm3

RESULTS:

There were 100 patients of acute cholecystitis who were taken for the study. Mean age was 47.9±13.3 years and there was female preponderance (n=58). The male: female ratio was 1:1.38. 53% of the patients presented within 72 hours, majority of which came with complaints of pain abdomen (n=86) followed by fever (n=80%), right upper quadrant lump was present in 21% and jaundice was seen in 12 patients. Tenderness in right hypochondrium / epigastrium was elicited in 90% of the patients followed by

Murphy's sign elicited in 60%. In the study, diabetes was seen in 35 patients and hypertension in 42 patients. Diagnosis was confirmed by ultrasonographic examination which showed different signs of acute cholecystitis, 50 of the patients had thickened gallbladder wall >5mm and 66 of them had enlarged gallbladder. Only 10% patients showed Murphy's sign radiologically. (Table 2)

On assessment of severity of the disease by Tokyo Guidelines, the severity of highest frequency was Grade II (n=66). The most common form of treatment was cholecystectomy. Majority of the patients were operated after 72 hours but within 7 days. (Table 2) Conversion rates were found to be very low with only 10 out of 93 patients undergoing conversion. The most common intraoperative finding was inflamed gallbladder found in 24 patients followed by Frozen Calot's triangle found in 19 patients, however, the most common reason for conversion was found to be the latter.

Patients of higher grade of severity were found to have higher mean age and there were more number of males. Diabetes was found to be more prevalent in the more severe grade. Patients of Grade I and II underwent surgical treatment in the form of cholecystectomy whereas Grade III were managed conservatively. All patients of Grade I were planned for laparoscopic cholecystectomy and patients of Grade II were planned for either open or laparoscopic cholecystectomy. Duration of surgery was found to increase with increase in grade of severity. Also, the rate of conversion were higher in Grade II as compared to Grade I (3% vs 14.7%) and in patients who were operated after 72 hours than patients operated within 72 hours from onset of symptoms. There were more post-operative complications in patients of Grade II (n=5) than in Grade I (n=1). Length of hospital stay has also been found to increase with grade of severity (Table 3).

Independent risk factors for conversion to open surgery were increasing severity grade, age, sex, duration of symptoms and co morbidities (Table 4).

Table 2 Cohort Characteristics

Variable	**Percentage**
Age (mean ± SD)	47.9±13.3 years
Sex	
Male	42%
Female	58%
Duration of symptoms	
<24 hours	32%
24 – 72 hours	21%
>72 hours	47%
Symptoms	
Pain abdomen	86%
Fever	80%
RUQ Lump	21%
Jaundice	12%
Nausea and Vomiting	26%
Anorexia	63%
Signs	
RHC/ Epigastric tenderness	90%
RUQ Mass	21%
Murphy's Sign	60%
Icterus	12%
Ultrasonogram Findings	
Thickening of gallbladder wall	50%
Enlarged gallbladder	66%
Murphy's Sign	10%
Pericholecystic fluid	48%
Debris Echo	4%
Total Leucocyte Count	
<4000 or >11,000	70%
Raised serum creatinine (>2 gm/dl)	2%
Serum bilirubin (>2 gm %)	15%
Comorbidities	
Diabetes	35%
Hypertension	42%
Severity Grade	
I	32%
II	66%
III	2%
Management	
Surgical	98%
Conservative	2%
Surgical Procedure	
Laparoscopic cholecystectomy	83%
Laparoscopic converted to open Cholecystectomy	10%
Open Cholecystectomy	5%
Intraoperative Finding	
Inflamed gallbladder	24.4%
Frozen Calot's	15.3%
Gangrenous Cholecystitis	5.1%
Empyema	8.2%

RHC- Right Hypochondrium; RUQ- Right Upper Quadrant.

Table 3: Patient Characteristics in different Cholecystitis Grade

Variable	Grade I (n=32)	Grade II (n=66)	GradeIII (n=2)
Age (mean ± SD)	41.3 ±12.6	51.5 ±11.2	63 ±2.8
Sex (% male)	4(12.5%)	36 (54.5%)	2(100%)
Duration of symptoms			
<24 hours	12 (37.5%)	20 (30.3%)	-
24-72 hours	20 (62.5%)	1 (1.5%)	-
>72 hours -	45 (68.2%)	2 (100%)	
Diabetes Mellitus	8 (25%)	26 (39%)	2 (100%)
WBC (Median)	10.05	17.95	25.7
Raised serum creatinine	0	0	2 (100%)
Treatment			
LC	31 (97 %)	52 (78.8%)	-
LC converted to OC	1 (3%)	9 (13.6%)	
OC	-	5 (7.6%)	
Conservative			2 (100%)
Duration of Surgery (mean ± SD) in mins	69.7±16.2	85.75±16.3	
Post- Operative Complications	1 (3.1%)	5 (7.6%)	
Wound infection	1 (3.1%)	3 (4.6%)	
Bleeding	-	1 (1.5%)	
Bile Leak	-	1 (1.5%)	
Length of Hospital Stay in days (Median: Range)	6 (4-9)	9 (5-14)	13 (12-14)

WBC- White Blood Cell ; LC- Laparoscopic cholecystectomy; OC- Open Cholecystectomy

Table 4: Factors affecting Conversion

Factors	Conversion Rate
Sex	
Male	18.9%
Female	5.3%
Age	
<60 years	10.3%
>60 years	16.7%
Duration of Symptoms	
<72 hours	7.6%
>72 hours	14.6%
Diabetes	
Yes	19.3%
No	6.4%
Severity Grade	
I	3%
II	14.7%

DISCUSSIONS:

Acute cholecystitis is a common surgical diagnosis which requires admission. The male: female ratio in the present study was 1:1.38. This is similar to the studies by Kamalapurkar et al [28] where the ratio was 1:1.15, Loozen et al [29] with ratio of 1:1.2 and Joseph et al [30] 1:2.01. Also male predominance was seen in higher grades with a ratio of 1.2:1 in Grade II similar to studies by Cheng et al [31] 1.8:1 and Paul Wright et al [32] with a ratio of 1.2:1. Similarly 100% of patients of grade III severity were male similar to study by Kamalapurkar et al [28] wherein 70% were male. Severity grades were found to increase with increasing age similar to studies by Saito et al [41], and Paul Wright et al [32] .A higher percentage of patients presented within 72 hours i.e. 53 %. This was in agreement with studies by Cheng et al [31] 56.2%, Paul Wright et al [32] 56.9% and Joseph et al [30] 66%. Pain abdomen was the most common symptom in our study with a percentage of 86% similar to the studies by Amirthalingham et al [33], Vigna et al [34] and Thapar et al [35] .Ultrasonography was done in all patients where the most common finding in acute cholecystitis was enlarged gall bladder (66%) followed by thickened wall of gallbladder (50%) similar to study by Bekki et al [36] wherein 61% patients had thickened gallbladder and 74.4% had enlarged gallbladder. Higher percentage of patients suffered from diabetes mellitus in the higher grades with 25% in grade I, 39% in grade II and 50% grade III similar to study by Amirthalingam et al [33] with a percentage of 17.9%, 30.6% and 50% in Grade I, II and III respectively.

Frequency of Grade II (66%) was highest followed by Grade I (32%) then Grade III (2%) similar to the studies by Asai et al [37], Inoue et al [38],Massoumi et al [39]and Lin, Yu Ning et al [40]. In our study , 23 out of 32 patients of Grade I were operated after 72 hours which was in contrast to studies by Asai et al [37]and Bekki et al [36]wherein only 30/99 and 13/148 were operated after 72 hours respectively. Similarly lesser number of patients of Grade II operated within 72 hours (16/66) which was different from studies by Bekki et al [36](116/154) and Lin, Yu Ning et al [40](50/74). Conversion rates were higher in Grade II (14.7%) than Grade I (3%) which was comparable to studies by Paul Wright et al [32], Lin, Yu Ning et al [40] and Saito et al [41]. Major cause of conversion was Frozen Calot's which was also found in studies by Beksac et al [42]and Inoue et al. Duration of surgery and post-operative complications higher in Grade II as compared to Grade I similar to findings by Loozen et al [29], Gerard et al [43] and Lin, Yu Ning et al [40]. Length of hospital stay was highest in Grade III followed by Grade II and least in Grade I similar to the studies by Saito et al [41], Gerard et al [43] and Lin, Yu Ning et al [40]. There was no mortality in our study group which was similar to all the afore mentioned studies.

CONCLUSIONS:

1. TOKYO GUIDELINES is an appropriate tool for diagnosis of acute cholecystitis that can be used in our setup without any fallbacks as most of the parameters in the guidelines can be analysed and reproduced in our population group.

2. Tokyo Guidelines allows early diagnosis and easy categorization of patients into various grades and also to determine the necessity for early cholecystectomy in case of acute cholecystitis based on the different grades defined by the guidelines.

3. To reduce the sequalae of acute cholecystitis, Tokyo Guidelines can be followed.

4. The clinical outcomes of patients when managed according to guidelines produced desirable results in acute cholecystitis with respect to short duration of hospital stay and minimum postoperative complications.

5. Early cholecystectomy in acute cholecystitis by laparoscopic procedure is usually advocated. However, it is seen to be difficult.

6. The conversion rate is lesser when done earlier as compared to later, however the rates are comparable. Hence, in certain predictive factors such as gender, age, comorbidities and symptom duration, conversion can be anticipated and patient can be counselled accordingly.

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Case Report

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J Asssoc Surg of Assam 2022;1: 23-25

JASA
The Journal of Association of Surgeons of Assam
Volume 29, No.1,
July 2022 to October 2022

Encrusted Foley Catheter tip – A case report

Abstract

Peri-catheter concretion or encrustation, is an unusual cause of difficulty in removal of the catheter. A 70-year male patient presented with complaints of lower abdominal distension and poorly draining foley's catheter. Patient was catheterized three months back for acute retention of urine. Patient failed tofollow up for regular interval change of catheter. CT scan revealed calcified Foley catheter tip and patient was taken for suprapubic cystostomy and the calcified Foley catheter was removed. Surgical removal is the optimum choice in semi urban setup. Aseptic catherization, frequent catheter change and proper patient counselling helps to prevent this complication.

KeyWords: urethral catheterization, encrusted tip urinary catheter, surgical removal

INTRODUCTION

In many surgical and medical conditions, urethral catheterization is the first method to drain the bladder. In a case of acute retention of urine, catheterization with a Foley catheter is the commonly used choice of initial treatment. Long-term use of indwelling Foleys catheterization is mainly seen in chronically debilitated individuals.Urinary tract infection, trauma to urothelium, creation of false tract and dislodgment are common problems associated with it.However, long term indwelling catheterization may lead to encrustations around the tip.1

CASE REPORT

A 70-year-old ambulatory male patient presented to the casualty department with a retained 18F Foleys catheter. The patient was catheterized three months back in a peripheral hospital for acute retention of urine.Since then,the patient didn't visit for check up and change the catheter. He did not have any history of previous surgery. On the day of presentation, the catheter stopped draining urine and multiple attempts for removal at a peripheral hospital was tried. On abdominal examination, patient had a suprapubic bulge suggestive of distended bladder. Per rectal examination revealed prostatomegaly.

Ultrasonography of KUB was suggestive of a calcification in the bladder and an ultrasound guided puncture was not successful.

Immediately the patient was shifted to operating room for a suprapubic catheterization (Figure 1).

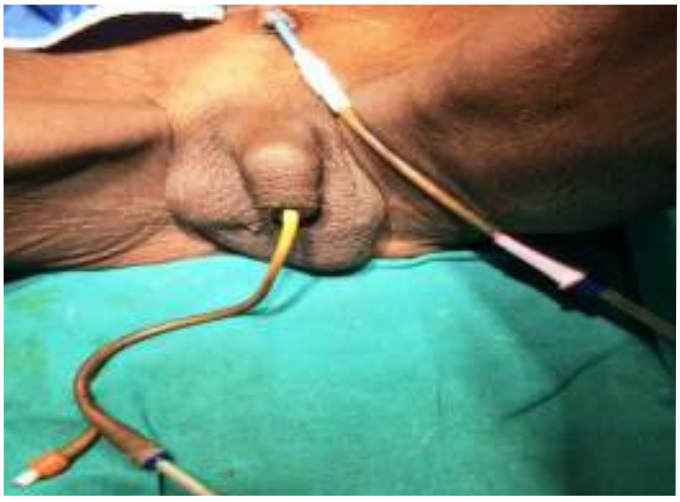

Figure 1. Blocked Foley catheter with suprepubic catheter

Post suprapubic catheterization, turbid urine was drained. Subsequently, blood investigation was normal. Urine culture and sensitivity revealed growth of Proteus mirabilis. Contrast CT scan revealed calcified Foleys catheter tip and GradeII prostatomegaly.

Patient was taken for suprapubic cystostomy under Spinal anesthesia, intraoperatively an encrusted Foleys catheter was identified and was removed by cutting the tip and remaining catheter taken out per urethra (Figure 2), a new 18F Foleys catheter was introduced per urethra and post operatively on Day14 catheter was removed and patient was able to pass urine comfortably and was discharged.

Figure 2. Encrusted Foley catheter tip

After we removed the encrusted tip, we catheterized freshly again and advised conservative management for BEP, with Tab Tamsulosin 0.4 mg + Dutaseride 0.5 mg for 3 months. We also asked the patient to attend Urology facility at a higher centre, for further management of his prostatomegaly.

DISCUSSION

Urinary catheterization remains a frequently performed procedure in any medical or surgical condition as required. Use of indwelling catheters are mainly seen in chronically debilitated patients. But long-term catheterization comes at the cost of complications likein fection, bladder spasms, catheter encrustations, and retained catheters. The encrustation can be either intraluminal or extraluminal.

Proteus mirabilis is the main microorganism responsible for the encrustation of catheter2. The main route of infection of the catheterized urinary tract is through the urethra along the outer surface of the catheter, as also sometimes ascending though the lumen from the urine bag into the bladder3. Removal of a retained Foleys catheter forcefully has a greater chance of injuring the delicate urethral wall resulting in bleeding and stricture formation4. Intra luminal lithotripsy is useful in intraluminal encrustations5. Extra corporeal shockwave lithotripsy (ESWL) has been used to fragment encrustation over the retained Foley catheter balloon. Intermittent balloon deflation and re inflation to interrupt the formation of encrustations and bladder irrigation with an acidic solution are also recommended for long term indwelling catheters6.Use of triclosan instead of Normal saline to inflate the Foley catheter balloon prevents encrustations in long term indwelling catheters7. Surgical removal was the treatment of choice in this patient as advanced urological setup was not available in our facility.

CONCLUSION

Encrusted Foleys catheter tip though a rare complication, can be avoided by a proper counseling of the patient for regular interval change of catheter, aseptic catheterization, early treatment of UTIs. The technique of surgical removal of encrusted Foleys catheter by suprapubic cystostomy is the treatment of choice in centers lacking advanced urological setup or experience.

Conflicts of interest:

There is no conflict of interest and the authors have not received any financial support or sponsorship for this study.

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Case Report

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J Asssoc Surg of Assam 2022;1: 25-27

JASA
The Journal of Association of Surgeons of Assam
Volume 29, No.1,
July 2022 to October 2022

Small Bowel Obstruction Due To Meckel's Diverticulum In An Inguinal Hernia (Littre's Hernia): A Case report

Abstract:

Small bowel obstruction is a common surgical emergency. The common causes are adhesions, bands, hernias etc. We present a rare case of small intestinal obstruction due to Meckel's diverticulum in a right indirect inguinal hernia.

A 52 years old male came to the emergency with features of acute intestinal obstruction with irreducible indirect inguinal hernia of right side of 1 day duration. After initial management to optimize the patient, we proceed for exploration of hernial site. On exploration we found small bowel with Meckel's diverticulum (approximately 2 feet from I-C junction) in hernial sac, with gangrene of diverticulum. A resection with 1cm margin on both sides of gangrenous diverticulum and ileal end to end anastomosis was done. Patient recovered well.

Meckel's diverticulum which is approximately 2% of the population and common complications related to it are hemorrhage, intestinal obstruction and inflammation [1,2].Small bowel obstruction due to Meckel's diverticulumin a hernial sac (littre's hernia) is very rare, which may pose a diagnostic challenge.

Key words: Intestinal obstruction, Meckel's diverticulum, Littre's hernia, Inguinal hernia

Introduction:

Small bowel obstruction is one of the common surgical emergencies we see in our day to day practice. Post operative adhesions (60%) [3] are the most common cause, followed by bands, hernias etc. Meckel's diverticulum is the most common congenital anomaly of gastrointestinal system. It originates from failure of vitelline duct to obliterate completely, which is usually located on the antimesenteric border of ileum. Its incidence is between 1-3% of the population, with equal prevalence in both sexes. But complications are more common in male. Most of the Meckel's diverticulum are discovered incidentally during a surgical procedure performed for other reasons. Hemorrhage, small bowel obstruction and diverticulitis are the most frequent complications [4]. Histologically, heterotopic gastric and pancreatic mucosa are frequently observed in the diverticulla of symptomatic patients. This case report presents the diagnosis and management of small bowel obstruction due to Meckel's diverticulum in an inguinal hernia.

Case Report:

A 52 years old male with no previous history of abdominal surgery, came to the emergency department of HAMM hospital and research center,Hojai with complains of swelling in right groin with abdominal distention, severe abdominal pain and vomiting for last 1 day with history of not passing stool and flatus for the same duration. On

examination he was conscious, oriented but having tachycardia and dehydration. A swelling was seen in right inguino-scrotal region, which was irreducible, tense and tender on palpation. His abdomen was distended and tender with absent bowel sounds. On digital rectal examination, the rectum was empty. Lab findings showed - TLC-8300/ccm, Hb-15.1gm/dl, ESR-60mmAEFH. Plain X –ray of the abdomen shows multiple air fluid levels. A clinical diagnosis of acute intestinal obstruction due to strangulated inguinal herniawith suspected peritonitis was made and patient was optimized with I.V fluids, I.V antibiotics, analgesics (Figure 1.).Fig-1We put a nasogastric tube and a Foley's catheter for input output monitoring. The patient was planned for exploration under regional anaesthesia. Intraoperatively we found hugely dilated ileal loops with Meckel's diverticulum which was causing intestinal obstruction with gangrenous change of Meckel's diverticulum (Figure 2,3,4).Fig-2,3,4Bowel loop distal to obstruction was collapsed. We first extended the incision laterally, and then resected the gangrenous Meckel;s diverticulum with 1 cm margin of ileum on either side and ileal end to end anastomosis was done after decompressing the proximal bowel. The diverticulum was confirmed as Meckel's diverticulum by its anatomical location intraoperatively. The post operative period was uneventful and patient was put on clear liquids on 3rd post operative day, which he tolerated well, and gradually shifted to semisolid diet and he was discharged on 6th post operative day.

Fig-1,x-ray abdomen showing Acute intestinal obstruction

Fig-2,showing Meckel'sdiverticulum causing intestinal obstruction

Fig-3,showing gangrenous Meckel's diverticulum with part of ileum

Fig-4,showing Specimen of Meckel's diverticulum with part of ileum

Meckel's diverticulum is the most common congenital anomaly of small intestine. It was first described by Fabricius Hildanus in 1598. However, it is named after Johann Friedrich Meckel, who established its embryologic origin in 1809. Its prevalence is approximately 1-3% of the population, and is a true diverticulum containing all layers of bowel wall. Average length of Meckel's diverticulum is 3 cm,with 90% ranging between 1-10 cm, and longest been 100 cm.The diverticulum is usually found within 100 cm from I-C valve on antimesenteric border of ileum. The mean distance seems to vary with age, and the average distance for children under 2 years of age is known to be 34cm. For adults, average distance is found to be 67cm. Most cases of Meckel's diverticulum are asymptomatic, and the estimated risk of developing lifetime complication is around 4% [2]. Most patients are asymptomatic and diagnosis is difficult to confirm preoperatively. Among the symptomatic patient two types of heterotopic mucosa (gastric and pancreatic) are found histologically within the diverticulla. Common complications related to Meckel's diverticulum include hemorrhage, intestinal obstruction and inflammation [5]. Small bowel obstruction due to Meckel's diverticulum in a hernial sac is a rare complication.

Littre hernia is the protrusion of a Meckel diverticulum through a potential abdominal opening. Alexis de Littre (1700) reported ileal diverticula and attributed them to traction. August Gottlieb Richter

(1785) defined them as preformed, and Johann Friedrich Meckel (1809) postulated their embryologic origin.

Literature search revealed a series of 53 Littre's hernia where 21 were male and 32 were female [6]. According to another study the most common sites of occurrence of Littre's hernia were femoral (39.6%) and inguinal (34%) [7]. The vast majority of cases (77.4%) were incarcerated hernias [8].

There are various of mechanisms for bowel obstruction arising from a Meckel's diverticulum. Obstruction can be caused by trapping of a bowel loop by mesodiverticular band, a volvulus of the diverticulum around a mesodiverticular band, intussusceptions, as well as by an extension into a hernia sac (Litter's hernia)[9].In our case it was caused by gangrenous Meckel's diverticulum in an inguinal hernial sac. The important aspect in our case is demonstration of gangrenous Meckel's diverticulum.

Various imaging modalities have been used to diagnose Meckel's diverticulum. Although of limited value, sonography has been used for the investigation of Meckel's diverticulum. High resolution sonography usually shows a fluid filled structure in right lower quadrant having the appearance of a blind-ending, thick walled loop of bowel [2]. In computed tomography (CT), Meckel's diverticulum is difficult to distinguish from normal small bowel in uncomplicated cases. However, a blind-ending fluid or gas-filled structure in continuity with the small bowel may be revealed [9]. Abdominal CT is used for complicated cases such as intussusceptions. CT can help to confirm the presence of intussusception and distinguish between lead point and non-lead point intussusceptions [10]. In asymptomatic patients; wheather all cases of incidental Meckel's diverticula should be resected or not is an unresolved question. On the other hand, for the symptomatic patients; treatment should always include resection of the diverticulum or the segment of the bowel affected by the pathology [11].

In case of strangulated inguinal hernia, both USG and CT scan can be done to find out the content of the hernia.

Conclusion:

In summary, although Meckel's diverticulum is the most prevalent congenital abnormality of the gastrointestinal tract; it is often difficult to diagnose. The complications of Meckel's diverticulum should be taken into account in the differential diagnosis of small bowel obstruction due to irreducible inguinal hernia.

Conflict of interest:None

Source of funding: None

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Case Report

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J Asssoc Surg of Assam 2022;1: 28-29

JASA
The Journal of Association of Surgeons of Assam
Volume 29, No.1,
July 2022 to October 2022

Superior Mesenteric Artery Syndrome with thoracolumbar scoliosis -A case report

ABSTRACT

Superior Mesenteric Artery syndrome or Wilkie's syndrome is a rare disorder commonly seen in young females. Profound nausea and vomiting,weight loss, post-prandial abdominal pain and distension are the presenting features.The diagnosis can be made by a barium upper GI series, hypotonic duodenography and Computed Tomography. We present here a case of 16 yr old male presented with Wilkie's syndrome associated with thoraco-lumber scoliosis, managed conservatively.

Keywords: Vomiting-abdominal distension-Wilkie's syndrome.

Superior Mesenteric Artery syndrome or Wilkie's syndrome is a rare disorder, with an incidence between 0.013% and 0.3% [1]. The duodenal obstruction occurs due to the loss of the fat pad between the Superior Mesenteric Artery and the abdominal aorta, which results in compression of the third part of the duodenum.

CASE REPORT

A 16 years old male presented to the emergency department with symptoms of upper abdominal pain, vomiting and generalized weakness for 2 months. On examination, his vitals were normal but there was pallor, upper abdominal distension and lateral curvature of the spine present(fig1).

Fig 1:Patient had marked features of thoraco-lumbar scoliosis.

The patient had severe anaemia with a haemoglobin of 6.2 gm/dL.Plain x-ray abdomen revealed spinal deformity (Fig2A). The ultrasonography of the abdomen revealed grossly distended stomach and dilated D1 and D2 segment of duodenum. In CECT abdomen there was borderline reduction of aorto-mesenteric angle and reduced aorto-mesenteric distance suggestive of Wilkie's syndrome(Fig 2B).

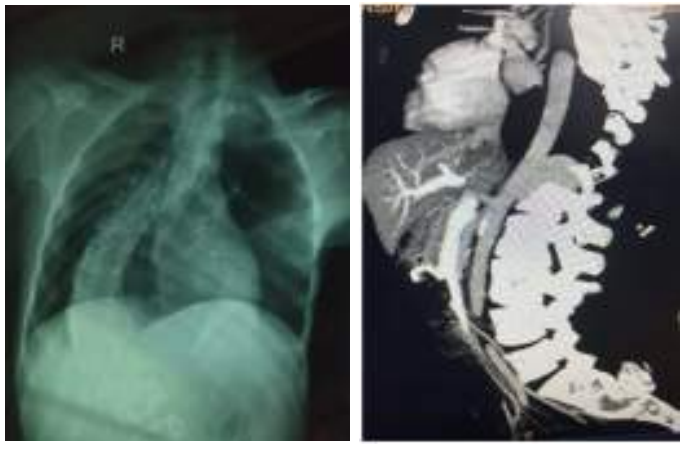

Fig:2

A. X ray of the chest and upper abdomen. The scoliosis can be visualized on the radiograph.

B. CECT (sagittal cut) showing the reduced angle between the SMA (blue arrowhead) and the aorta (red arrowhead), with compression of the third part of the duodenum (yellow arrowhead).

Patient was hospitalized and a trial of conservative management was initiated. Nasogastric tube was kept in situ to decompress the stomach and patient was kept nil per orally till the distension was reduced and patient was free of symptoms. A trial of oral feeds was started on day 4 which was tolerated by the patient. Other supportive management for correction of anemia, deranged electrolytes was also instituted. Patient was discharged on Day 10 and follow up after two weeks revealed that the patient was asymptomatic and able to tolerate orally.

DISCUSSION

Superior Mesenteric Artery (SMA) syndrome/Wilkie syndrome/Cast syndrome is a rare condition in which there is vascular compression of the third or transverse portion of duodenumbetween the aorta and the superior mesenteric artery resulting in chronic, intermittentor acute complete or partial duodenal obstruction[2].It is usually due to the loss of the intervening mesenteric fat pad between the aorta and SMA resulting a narrower angle between the vessels[3].Since its initial description in 1842, about 400 cases have been reported in the literatureand the incidence of the condition is estimated at 0.1% to 0.3%[3,4].SMA syndrome occurs in adolescents and young adults in the age group of 10 to 39 years with male -female ratio of 3:2 but no age is immune to it[4].Predisposing factors include weight loss, supine immobilization, surgical correction of scoliosis,congenitally short or hypertrophic ligament of Treitz, peritoneal adhesions, duodenal malrotation, Ladd's bands, abdominal aortic aneurysm, lumbar hyperlordosis, and mesenteric root neoplasm.[4]. Symptoms include profound nausea and vomiting, post-prandial abdominal pain, weight loss and upper abdominal distension [4]. The diagnosis can be made by a barium upper GI series, hypotonic duodenography and Computed Tomography [5]. Initial management is conservative which includes fluid resuscitation, electrolyte correction, total parenteral nutrition and nasogastric tube insertion for gastric decompression. The patient is encouraged to eat small meals and engage in posture therapy which involves patients lying in the left lateral decubitus position, rather than recombinant, to improve symptoms[4].Many patients fail conservative therapyrequiring surgical intervention. Operative management including duodenojejunostomy, gastrojejunostomy to bypass the obstruction or duodenal derotation (Strong's procedure)[5].Laparoscopic duodenojejunostomy has recently replaced open bypass at the standard operative treatment with encouraging results[4].

CONCLUSION

The SMA syndrome is one of the possible causes of duodenal obstruction which should be addressed as early as possible in order to prevent long term changes in the nutritional status of the patient. Identification and correction of the predisposing factors is of paramount importance. Conservative management is the first choicewith the option of surgery reserved for refractory cases.

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Case Report

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J Asssoc Surg of Assam 2022;1: 30-32

JASA
The Journal of Association of Surgeons of Assam
Volume 29, No.1,
July 2022 to October 2022

Penile Myiasis: Maggot infestation of penis – A case report

ABSTRACT:

Circumcision is a commonly performed procedure. Most common complications of this procure are are hemorrhage and infection. Myiasis or maggot infestation of the circumcision wound is very rare. Genital myiasis may result in complications including: minor genital irritation, genitourinary tract infection, auto-amputation of the penis, and even death due to secondary infection [1]. We treated a 4 years old boy with penile myiasis following circumcision.

Key words: penile myiasis, maggot infestation of penis, complication of circumcision

INTRODUCTION:

An estimated one-third of males worldwide are circumcised [2]. It is done mostly for religious reason and sometimes done therapeutically for problematic phimosis, chronic balanoposthitis and occasionally for prevention of urinary tract infection. Most common complications of circumcision are bleeding and infection. Myiasis or maggot infestation of the circumcision wound is very rare and occurs due to poor hygiene and uncovered wound. We treated a 4 years old boy with maggot infestation of penis following circumcision. Genital myiasis is uncommon. The purpose of this paper is to report the case of penile myiasis and review the literature.

CASE REPORT:

A 4 years old boy presented to us with extreme pain and swelling of the penis nine days following religious circumcision done indigenously. Parents also reported to have seen some worms peeping out of the circumcision wound. Child had a Foley catheter in situ put in a peripheral health centre because of difficulty in passing urine. On examination, the child was in distress. Penis was swollen, tense and shiny; maggots were seen in the necrosed tissue at the corona glandis (Fig.1). Glans penis was intact dorsally but there was ulceration and sloughed tissue at ventral part near frenum and distal shaft (Fig. 2).

Figure 1: Maggots seen at corona

Figure 2: Gross tissue necrosis

Initially we tried to evacuate the maggots by suffocating them by covering the wound with Vaseline but only few worms crawled out of the wound and they were removed by catching them with surgical forceps with difficulty. But innumerable worms could be appreciated inside. Then we put hydrogen peroxide in the wound but without much success. Then we took the patient to operation room and explored the wound under general anesthesia. We split the penis dorsally (Fig. 3) and evacuated all maggots. Corpora cavernosa appeared intact but corpora spongiosum was necrosed and urethra was sloughed out distally (Fig.4).

Figure 3: Penile skin split dorsaly

Figure 2: distal urethra sloughed out

We debrided all necrosed tissue and renewed the Foley catheter in bladder. We removed the dressings after 14 hours, glans looked healthy but it was hanging on the sloughed out urethra and there was some residual slough tissue but there was no more maggot. Parents opted to take to child to a higher centre outside the city. Reportedly further debridement and cystoscopy was done. Patient came for revisit to us after 6 weeks. Wound was healed, glans was intact and patient was passing urine from hypospadiac urethra (mid-penile location). Patient did not report to us for further reconstruction.

DISCUSSION:

Male circumcision is a commonly performed operation done widely for religious purpose and sometimes for therapeutic reasons also. Therapeutic circumcision is usually done by trained persons while majority of the religious circumcisions in developing countries are done by untrained persons without proper intra-op and post-op care. Most common complications following circumcision are bleeding and infection. Other complications are; meatal stenosis, pain, urinary retention, fistulas, sexual dysfunction, and loss of penile sensitivity [3].

Most of the time infection is local but rarely may lead to systemic spread. Myiasis—the infestation of live vertebrate animals with dipterous larvae as a complication of circumcision—is rather a very rare complication encountered in clinical practice, and only few case reports are available in the literature so far. Hossain et al [4] from Bangladesh has reported a 10 years old boy with penile myiasis who presented to them 7 days following circumcision done for religious purpose by an untrained "itinerant circumciser." They treated the wound with hydrogen peroxide but only few worms came out. They felt many maggots inside and therefore surgical removal was done. Dorsal slit was done under anesthesia and all the maggots were removed, maggots were found upto deep inside mons pubis. Another case of penile myiasis was reported from Thailand [5]. A 59-year-old male patient from Yala Province, Thailand presented to Yala regional hospital with a painful, foul-smelling ulcer on the glans penis two weeks following genital trauma. He was a laborer in a small farm and wears a short sarong without underwear. He had an ulcerative lesion with central necrotic tissue and multiple maggots crawling on the glans penis. He was treated by surgical debridement and removal of maggots.

Koifman et al had reported a series of 10 cases of Myiasis associated with penile carcinoma [1]

Myiasis is infection with a fly larva, usually occurring in tropical and subtropical areas. There are several ways for flies to transmit their larvae to people. Some flies attach their eggs to mosquitoes and wait for mosquitoes to bite people. Their larvae then enter these bites. Other flies' larvae burrow into skin.

Myiasis in dead bodies is fairly common, but this infestation is very less often seen in living tissues. Worldwide, the most common flies that cause the human infestation are Dermatobia hominis (human botfly) and Cordylobia anthropophaga (tumbu fly). These flies drop eggs containing larval stage on skin, wounds, or natural orifices of an immobile person, though recently described cases from many parts of the world have involved nasotrachea, mouth, brain, penis, gums, urinary bladder, and colon [6].

The treatment of myiasis consists of 1) the application of a toxic substance to the larva and eggs, 2) the production of localized hypoxia to force the emergence of the larva, and 3) the mechanical or surgical removal of the maggots [7]

In our case, initially we tried to suffocate the larvae by producing hypoxia by sealing the wound with vaselline. But only few superficial worms came out, many were imbedded deep inside and therefore we resorted to surgical removal. Removal by simply catching them by a forceps is difficult, as these larvae have serrated segments pointing anteriorly by which they get firm hold in the tissue. Therefore proper dissection is needed for easy evacuation of the maggots. It also calls for proper hygiene of circumcision wound, especially in household environment.

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A rare foreign body in gluteal region

Manoj Saha

A five years old boy was presented with history of accidental fall on a household hand held bell (these bell usually consist of three parts; i)head which is usually made in the form of a animal or different Gods, ii) a shaft for holding .iii) and the bell bellow); the bell broke down and the head part entered into his gluteal region. Child had pain and limping. Skiagram showed a metallic foreign body in left gluteal region, which looked like a toy. Foreign body was not palpable even under anaesthesia. We located the foreign body by C-arm fluoroscopy and removed it surgically. Note the foreign body migrated significantly up.

1. Skiagram showing metallic foreign body in left gluteal region

2. Located under C-arm televission

3. Foreign body removed from much higher location than the entry point

4. The retrieved foreign body

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