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Recto-Vestibular Fistula

Ectopic Rectum and Atresia

Highlights

Revision Surgery of Major Limb

Upper Gastrointestinal Bleeding

Discovering Thoughts, Inventing Future

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Surgical Repair of Ectopic Rectum and Atresia ani in a Kid

By J. D. Parrah, B. A. Moulvi, Mohsin Ali Gazi, T. Imtiyaz, H. Athar, Q. A. Khan & N. Handoo
Sher-e-Kashmir University of Agricultural Sciences, India

Introduction- Intestinal atresia has been reported as a congenital defect in all species of domestic animals (Van Der Gass and Tibboel, 1980). The congenital abnormalities of the anus and rectum are common in young ones. (Nixon,1972. Drey fuss and Tulleners. 1989 and Parrah et al., 2004 & 2005). Various surgical techniques have been used to correct atresia ani and ectopic rectum in domestic animals (Singh, 1989 and Jubb et al., 1993). This report communicates a case of atresia ani and ectopic rectum in a male kid, which was treated successfully by surgical intervention.

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Surgical Repair of Ectopic Rectum and Atresia ani in a Kid

J. D. Parrah [α], B. A. Moulvi [σ], Mohsin Ali Gazi [ρ], T. Imtiyaz [Ω], H. Athar [¥], Q. A. Khan [§] & N. Handoo [χ]

I. Introduction

Intestinal atresia has been reported as a congenital defect in all species of domestic animals (Van Der Gass and Tibboel, 1980). The congenital abnormalities of the anus and rectum are common in young ones. (Nixon,1972. Drey fuss and Tulleners. 1989 and Parrah *et al.,* 2004 & 2005). Various surgical techniques have been used to correct atresia ani and ectopic rectum in domestic animals (Singh, 1989 and Jubb *et al.,* 1993). This report communicates a case of atresia ani and ectopic rectum in a male kid, which was treated successfully by surgical intervention.

II. History and Clinical Examination

A 2 day old male kid was presented with history of restlessness, slight abdominal distension and partial anorxia. Clinical examination revealed imperforate anus, increased heart and respiratory rate. Temperature was normal. Case was diagnosed as atresia ani condition and planned for surgery.

a) Surgical Management

Anal opening was created as per routine procedure (Sing *et al.,* 1993). Rectum was found missing. Further and father dissection towards pelvic inlet was of no use. Exploratory laprotomy was decided to be undertaken. After preparing the animal for aseptic surgery, abdominal cavity was entered through right flank. After thorough search, rectum was found terminating into the body of urinary bladder at its right lateral side. Recto-vesical tract was double ligated. Rectum was resected free from the urinary bladder in between the two ligatures. Rectum was exteriorized through already made anal opening. Rectal mucosa was fixed to the skin with interrupted catgut sutures. The ligature proximal to the suture on the rectum was removed. Abdominal wound in the right flank region was closed as per the routine procedure. Postoperatively the animal was given antibiotic cover and pain killers for a period of 6 and 2 day respectively. Antiseptic dressing of the skin wound was carried out on alternate days for a period of 10 days.

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III. Results and Discussion

The animal showed marked improvement in defecation and general behavior within 3rd day of surgery. Skin sutures were removed on 11th post operative day. Animal recovered uneventfully.

Most affected kids initially will stand and suckle normally after birth. The time for onset of clinical signs of this condition may vary from 1 to 3 days. On collection of history the owner did not see the kid passing muconium or feces, was the main observation. The principal clinical sign of condition was restlessness, slight abdominal distension and partial anorexia. Atresia ani can be diagnosed by visual inspection of the perineal region or by limited digital palpation if a vestigial anal opening is present. Surgical intervention is the only technique of choice for the treatment in such acute abdominal discomfort and it was attempted successfully in this present case.

During early embryonic life the rectum and bladder are one cavity. As development proceeds it becomes divided into two compartments, the lower forming the bladder and urethra, while the upper one forms the rectum (O'conner, 1985). If the separation is in complete and development of rectum is arrested, an ectopic rectum may result.

References Références Referencias

1. Dreyfuss, D. J. and Tulleners, E. P. (1989) Intestinal atresia in calves: 22 cases (1978-1988). J. Am. Vet. Med. Assoc. 171: 433-434.
2. Jubb, K. V. F., Kennedy, P. C. and Palmer, N. (1993) Pathology of domestic animals. Academic press, London.
3. Nixon, M. M. (1972) Anorectal anomalies with an international proposed classification. Post grad Med. 10: 11-127.
4. O'connor, J. J. (1985) Dollars Veterinary surgery. Indian Edition. CBS Pubilishers and distributors, 485, Jain Bhawa Bhola Nath Narer, Shadar, Delhi 110031 (India).
5. Parrah, J. D., Buchoo, B. A., Moulvi, B. A. and Khan, M. Z. (2004) Atresia ani-et- recti in association with rectovaginal fistula in a lamb. SKUAST J. Research. 8: 231-232.

6. Parrah, J. D., Moulvi, B. A. and Buchoo, B. A. (2005) surgical repair of rectovesical fistula and Atresia ani-et-recti in a calf. Oriental Science. 10: 61-62.
7. Sing, J., Sing, A. P. and Patil, D. B. (1993) the Digestive System, In: Ruminant Surgery. Ed. R. P. S. Tyagi and Jit Singh, CBS Publishers and Distributors, 485, Jain Bhawan Bhola Nath Nager,Shadar, Delhi-110021 (India).
8. Van Der Gass, I. and Tibboel, D. (1980) Intestinal atresia and stenosis in animals: a report of 34 cases. Vet. Pathol. 17: 565-574.

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Revision Surgery of Major Limb Amputations, Indications, Surgical Management and Outcome

By Zidane Basheer Zidane, Mohammed Elamin Salim & Seif EIdin Ibrahim Mahadi
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Abstract- *Background:* The rate of revision following major limp amputations remains high despite the availability of a variety of methods to select amputation level. The purpose of this study was to outline the common indications, surgical management and outcome of revision surgery of major limb amputations in Khartoum teaching hospital, and to compare our experience with that of other published data. Methods: This is a prospective cross sectional hospital based study conducted in Khartoum teaching hospital (KTH) during the period November 2012 to January 2014.

Results: A total of 62 patients required revision surgery for their major limb amputation were entered into the study. Their ageranged between 3-90 years with mean age of 47.35 years and standard deviation of 19.06 years. Males outnumbered females by a ratio of 2.8:1. Diabetes found in 34 patients (54.8%), hypertension in 22 (35.5%), and 8 patients (12.9%) had other comorbid diseases including cardiovascular disease and renal impairment.

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Revision Surgery of Major Limb Amputations, Indications, Surgical Management and Outcome

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The most common indication for revision surgery was wound infection (53.2%). Other more frequent indications include prominent bone (19.4%), stump necrosis (11.3%), and fissuring & ulceration (9.7%). Less frequent indications include painful neuroma (3.2%) and prosthesis unfitting (3.2%). The most common revision procedures performed was wound debridement & secondary suture (25.8%), followed by skin grafting (22.6%), wedge resection (16.1%), muscle flap (9.7%), and excision of neuroma (3.2%). Reamputation was required in 14 patients (22.6%). Staged operations were required in 25 of patients (40.3%). Complete relieve of the complication that required revision was achieved in 51 patients (82.26%) and partial relieve in 11 patients (17.74%). The length of hospital stay ranged between 14 and 35 days with mean of 21.35 days and standard deviation of 4.88 days. The perioperative mortality rate was 12.9%.

Conclusion: Revision surgery is necessary if the primary amputation fails to heal, or the residual limb is unsatisfactory for prosthetic fitting. In our study diabetes related sepsis and peripheral vascular disease were the most common cause of initial amputation, and the commonest indication for revision was wound infection. Revision surgery had good outcome in our study. Better education, more research, and additional refinement of surgical technique are needed to avoid unnecessary revision surgery.

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I. Introduction

Therapeutic amputation has a history of more than 2500 years. In 500 BC, Hippocrates advocated amputation of infected limbs as a means of preserving lives. Supporting evidence came in the form of a 300BC Roman leg prosthesis made of wood, bronze, and leather, which was unearthed in 1858 (1).

Despite the long history of this surgery, the outlook for patients remains poor namely, a high mortality rate, frequent complications concerning stump healing, and difficulty in rehabilitation (2).

The rate of revision following major amputation remains high despite the availability of a variety of methods to select amputation level. Determination of risk factors for the need of revision surgery among amputees and selection of the effective procedures presents major problem in surgical wards.

Various factors have been associated with high risk of revision such as Diabetes (twice the risk) and atherosclerosis. Indications for such a procedure include: infection of the stump, symptomatic bone spurs, fissuring or ulceration, stump pain and/or phantom limb pain, and improvement of the stump for prosthetic fitting.

Revision surgery include management of infection, removal of bone spurs, wedge resection, muscle flap, excision of neuroma, proximal amputation, skin graft and adjustment of soft tissues for better prosthetic fitting.

Outcome of revision vary according to the indications and the revision procedures. M.R. WOOD et al document that the value of revision surgery when performed for stump and/or phantom limb pain alone, only 35% obtained satisfactory results after one revision; 26% of the patients required four or more surgical procedures without relief of pain. When carried out for local specific pathology, the results of surgical revision were 100% successful, even if the procedure had to be repeated once in 15 % of this group of patients (3). Numerous studies over the past two decades have reported early mortality from a major amputation and for surgical revision as high as 20% or more (4).

II. Methodology

a) Study Design

This is a prospective cross sectional hospital based study done on patients of major limb

amputations who required revision surgeries in Khartoum teaching hospital (KTH) from November 2012 to January 2013.

b) Study Setting

The study was conducted in the surgical, orthopedic and plastic surgery wards of Khartoum teaching hospital (KTH) situated in Khartoum city in the center of Sudan. KTH have surgical outpatient department, casualty, short stay ward, emergency septic & aseptic theater, elective theater, long stay admission, HDU and ITU. It is a governmental hospital with a bed capacity of 1000, provides services to patients from neighboring towns in Khartoum state and those referred from peripheral hospitals. Also it is teaching hospital for many faculties of medicine in Khartoum city and other paramedic institutes.

c) Study Population

The study population included all patients of all age group and gender who required revision surgeries for major limb amputations who were admitted to Khartoum teaching hospital during the period of the study.

d) Selection Criteria

All patients of all age group and gender required revision surgery for major limb amputations who consented for the study were included in the study. Patients who declined consent and those who were previously operated in other hospitals, but required stump revision were excluded from the study.

e) Recruitment of Patients

Recruitment of patients was conducted after the indications for revision presented. The decision of the revision surgery, indications and the procedure were determined by the attending surgeon based on clinical evaluation, and investigations.

A variety of revision surgeries were performed by the attending surgeon who also prescribed the postoperative care of the patient. Simple procedures such as wound debridement and secondary suture were done in the department of general or orthopedic surgery, other indications required reconstructive procedures such as skin graft and muscle flaps were done in department of plastic surgery, and those required complex reconstruction such as joint salvage were done by team works. Patients were followed up till discharge and relief of the presenting indication. Patients who developed complications were managed appropriately.

f) Data Collection and Analysis

Data were collected using a pre-tested, coded questionnaire. Data were analyzed using statistical package for social science (SPSS) version 19 computer software, and compared with the global literature on revision surgery for major limb amputations to document our local trends and variations.

g) Ethical Consideration

The study was carried out after the approval by the department of surgery and KTH ethical committee. All patients who met the inclusion criteria were consented to participate in the study.

h) Result

A total of 62 patients required revision surgery for their major limb amputation were entered into the study. Forty six of them were males (74.2%) with a male: female ratio of 2.8:1.

Their age ranged between 3-90 years with mean age of 47.35 years and standard deviation of 19.06 years.

Diabetes was found in 34 patients (54.8%), hypertension in 22 (35.5%), and 8 patients (12.9%) had other comorbid diseases such as cardiovascular disease and renal impairment. The common cause of initial amputation was diabetes related sepsis in 29 patients (46.8%), followed by trauma 20 patients (32.3%) and peripheral vascular disease 11 patients (17.7%) (Table-1). The cause of amputation in the remaining two patients was electrical burn and post vasoocclosive crisis of sickle cell anemia.

Table 1 : Causes of the Initial Amputation the Study Population

	N= 62	
	N	%
Diabetes	34	54.8
Trauma	28	55.2
PVD	22	35.5
Others	8	12.9

Lower limbs were involved in 47 cases (75.8%) and upper limbs in 15 cases (24.2%) giving a lower limb to upper limb ratio of 3.12:1. Below knee amputation was the most common level performed (54.8%). The initial amputation was on the right side in 37 patients (59.7%), on the left side in 24 patients (38.7%) and there was only one case of bilateral lower limb amputation.

Forty four of the initial amputation operations were emergent (71%) and the remaining 18 were elective (29%). The stump of the initial amputation closed primarily in 39 patients (62.9%), and leaved open for further assessment and revision in the remaining 23 patients (37.1%).

The common indication for revision was wound infection in 33 patients (53.2%), prominent bone in 12 patients (19.4%), stump necrosis in 7 patients (11.3%), and fissuring & ulceration in 6 patients (9.7%). Less frequent indications include painful neuroma in two patients (3.2%) and prosthesis unfitting in two patients (3.2%) (Table-2).

Table 2 : Indications for Revision Surgery among the Study Population

	N= 62	
	N	%
Infection	33	53.2
Prominent bone	12	19.4
Necrosis	7	11.3
Fissuring and ulceration	6	9.7
Neuroma	2	3.2
Prosthetic un fitting	2	3.2

The majority of revision surgeries performed in the first six weeks after the amputation. The most common revision procedures performed was wound debridement & secondary suture counted for 25.8% of cases (n=16), followed by skin grafting 22.6% (n=14), wedge resection 16.1% (n=10), muscle flap 9.7% (n=6), and excision of neuroma 3.2% (n=2). Reamputation was required in 14 patients (22.6%) (Table-3). Two-stage operation was required in 25 patients (40.3%). Complete relieve from the complication that necessitated the revision surgery was achieved in 51 patients (82.26%) and partial relieve in 11 patients (17.74%). The length of hospital stay ranged between 14 and 35 days with mean of 21.35 days and standard deviation of 4.88 days. The perioperative mortality rate was 12.9% (n=8).

III. Discussion

In this study we tried to evaluate the common indications for revision surgery of major limb amputation, their surgical management, and the overall outcome.

In our series the common cause of the initial amputation was diabetes related sepsis (46.8%), followed by trauma (32.3%) and peripheral vascular disease (17.7%) (Table-1), this was same with the finding of El Bushra Ahmed Doumi (2006) in his study of major limb amputations in El Obeid hospital as he reported the common cause of amputation was sepsis (40%) followed by trauma (32%) and vascular diseases (16%) (5). While Mohamed IA et al (1997) reported that trauma was the commonest cause (42.4%) followed by sepsis (30%) (6).

The males outnumbered females because males have a more active life style and therefore exposed more to trauma. The lower limb to upper limb ratio of 3.12:1 was same to that reported by El Bushra Ahmed Doumi (6).

Below knee amputation was the most common level performed (54.8%), this was same with the finding of Mohamed Osman et al (7).

The majority of the initial amputations were emergent because they presented with unsalvageable extremities in case of trauma, and uncontrolled sepsis or gas gangrene in case of diabetic patients. The relatively high percent of amputation stumps that leaved open justified by the fact that most of our patients came late and the wound was not amenable for primary closure because the high risk of wound failure, so it preferred to leave it opened for further assessment and revision.

In our series the most common indication for revision was wound infection (Table-2), this was same with that reported by Mohamed Osman et al (2003). Also they reported a revision rate of 27% and the most frequent revision procedures performed was debridement (7). Wound infection was more prevalent in diabetic patients compared with non-diabetic patients (70.59% vs. 32.14%).

In our series debridement and secondary suturing was the most frequent revision procedures performed (Table-3).

Table 3 : Procedures of the Revision Surgery

	N= 62	
	N	%
Debridement	16	25.8
SSG	14	22.6
Re amputation	14	22.6
Wedge resection	10	16.1
Muscle flap	6	9.7
Excision of neuroma	2	3.2

It was indicated for all stumps complicated by infection or necrosis extends more than 1.2 cm from wound edge as described by McCullough NC (8). The Procedure performed under local or regional anesthesia usually once or multiple and followed by secondary suture.

Bone related complications in our study occurred due to retraction of muscle occur over the stump with erosion of bone through the skin in some cases, and in other cases bone exposed within a dehisced wound. We found wedge resection described by Murdoch (1977) appropriate for this type of complication and sometimes accompanied by reduction of bone. Also wedge resection used in cases presented with stump necrosis or deep wound infection. The stumps healing rate after wedge resection was 90% after 28 days from operation compared to healing rate of 74% by W. Hadden et al (9).

For those cases of short stump with prominent bone the stump was salvaged by local muscle flap, myodesis, and soft tissue shaping.

There was two cases of neuroma underwent successful excision, and the nerve divided at a more proximal level.

M. R. WOOD et al recommended the use of split skin grafting in the early management of the stump following traumatic limb amputation in the adult despite the fact that more revision surgery may often be necessary at a later date to provide skin with normal

sensation, allowing the surgeon the ability to preserve the proximal joint above the amputation (10). We use skin grafting in eleven patients of traumatic limb amputation to preserve the stump length. Full take of the graft was recorded in nine patients on the fifth postoperative day, and the remaining two patients complained of occasional minor ulceration at the junction of the graft with normal skin. Also we used split skin grafting in stump of diabetic amputees as recommended by S.M. Mahmoud et al and the result was satisfactory (11).

Fourteen patients required reamputation to higher level, fife of them performed to control the infection, four due to failure of stump healing because of ischemia, tow due to prominent bone in short stump that can't be salvaged by muscle flap, tow done to reduce the length of the too long stump that not fit well to the prosthesis, and the remaining one due to extensive fissuring and ulceration of the stump that not relieved by skin graft.

Our overall reamputation rate of 22.6% was less than the 38% and 26%reamputation rate reported by Kanade R et al and Dillingham TR et al respectively (1, 12). Diabetic patients had high rate of reamputation compared with non-diabetic patients (26.5% vs. 17.86%).

The 26.5% reamputation rate in diabetic patient was less than 46% reamputation rates in diabetic population reported by Kanade R et al (1).

Combination of more than one procedure needed to salvage the short stump in order to preserve the joint the thing that reduce the energy expenditure in the future when start using the prosthesis. Staged operations were required in 25 patients (40.3%).

M.R. Wood et al reported that when revision surgery was carried out for the treatment of infection, removal of bone spurs, revision of skin grafts or to provide a better stump for prosthetic fitting, the results were successful in 85% of patients after the first revision and 100% successful after a second revision procedure (3). Our overall outcome was reasonable to our facilities as complete relieve from the complication that necessitated the revision surgery was achieved in 82.26% of patients and partial relieve in 17.74% of patients. In bivariate analysis we found male gender was associated with good outcome (P=0.023), while diabetes was associated with poor outcome (P=0.026).

The perioperative mortality rate was 12.9% (n=8). Four of them died because of sepsis, tow due do myocardial infarction and the causes of death were not ascertained in tow patients who died at home. The mortality rate of 12.9% was less that 33% mortality rate reported by Dillingham TR et al (12).

IV. Conclusion

Revision is necessary if the primary amputation fails to heal, or the residual limb is unsatisfactory for prosthetic fitting.

In our study diabetes related sepsis and peripheral vascular disease were the most common cause of initial amputation, and the commonest indication for revision surgery was wound infection.

Revision surgery had good outcome in our study. Better education, more research, and additional refinement of surgical technique are needed to avoid unnecessary revision amputations.

References Références Referencias

1. Kanade R, van Deursen R, Burton J, Davies V, Harding K, Price P. Reamputation occurrence in the diabetic population in South Wales. UK. Int Wound J. 2007; 4(4):344-352.
2. Peng CW, Tan SG. Perioperative and rehabilitative outcomes after amputation for is chaemic leg gangrene. Ann Acad Med Singapore. 2000; 29: 168–72.
3. M. R. Wood, G. A. Hunter, S. G. Millsrein. The value of revision surgery after initial amputation of an upper or lower limp. Journal of the International Society for Prosthesis and Orthotics. 1987; 11(1):1720.
4. Amit Kumar C Jain, Ajit Kumar Varma, Mangalanandan, Harish Kumar. Major Amputations in Diabetes - An Experience from Diabetic Limb Salvage Centre in India. The Journal of Diabetic Foot Complications. 2012; 4(3):63-66.
5. Mohamed IA, Ahmed AR, Ahmed ME. Amputation and prostheses in Khartoum. Journal of the Royal College of Surgeons of Edinburgh. 1997; 42(4): 248-251.
6. El Bushra Ahmed Doumi, Aisha Jabir Ali. Major limb amputations in El Obeid Hospital, Western Sudan. Sudan JMS. 2007Dec; 2(4):237-239.
7. Mohamed Osman Suliman, Omer El Faroug H Salim, Mohamed El Makki Ahmed. Major lower limb amputation in diabetics. Khartoum Medical Journal. 2012; 5(1):694-698.
8. McCollough NC III: Complications of amputation surgery. In Epps Ch (ed): Complications in Orthopaedic Surgery, Philaphelia, JB Lippincotted 2, 1986.
9. W. Hadden, R. Marks, G. Murdoch, C. Stewart. Wedge resection of amputation stumps. The Journal of Bone and Joint Surgery. 1987March; 69(2): 306-308.
10. M. R. Wood, G. A. Hunter, S. G. Millsrein. The value of stump split skin grafting following amputation for trauma in adult upper and lower limb amputee. Journal of the International Society for Prosthesis and Orthotics. 1987; 11(1):71-74.
11. S.M. Mahmoud, A.A. Mohamed, S.E.I. Mahdi, M.E. Ahmed. Split-skin graft in the management of diabetic foot ulcers. Journal of Wound Care. 2008 Jul; 17(7):303-306.

12. Dillingham TR, Pezz in LE, Shore AD. Reamputation, mortality and healthcare costs among persons with dysvascular lower limb amputations. Arch Phys Med Rehab. 2005; 86(3):480-6.

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Clinical Profile and Correlation between FNAC and Histopathology of Breast Lumps in a Teaching Hospital

By Dr. Kiran Kumar P.S & Dr. Mahesh. G.S
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Abstract- Breast lump is a common finding in surgical practice. The breast lump so presented should accurately diagnose in order to initiate the treatment early. In order to study the efficacy of FNAC, this study was undertaken in Outpatient department. A total of 150 patients attending the outpatient department were chosen as study sample. The sample for FNAC was obtained by using ultrasound guided needle aspiration and the tissue excised was sent to histopathological examination. The mean age group of women in this study was 34.98 years and majority of the women were aged 21 – 30 years. More than half of the women in this study had lump measuring 1 – 3 × 1 - 3 cms. In this study, 21.3% of the breast lumps were due to benign breast disease, 56.7% of the women had fibroadenoma of the breast, 14.7% had suspicious malignancy and 7.3% had features suggestive of malignancy on FNAC examination. The comparison of FNAC findings with histopathology had shown that 17.3% of the patients who were diagnosed as benign breast disease had fibro adenoma on histopathology, 12% with suspicious malignancy turned out as invasive duct carcinoma.

Keywords: *breast lump, FNAC, histopathology.*

GJMR-I Classification: *NLMC Code: WO 192, WO 500*

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Keywords: breast lump, FNAC, histopathology.

I. Introduction

Lump in breast is common presentation in surgical practice. The lesions of the breast have diverse etiology and presentation may range from a benign tumour, cyst or a malignancy.[1] The dominant breast lumps are often defined as clinically benign breast lesions which are distinct, persistent and relatively unchanging and include fibroadenomas, gross cysts and galactoceles.[2] The diagnostic methods of palpable breast lumps should be rapid, inexpensive, most accurate and least invasive to evaluate and distinguish between benign and malignant lumps in outpatient clinics. Such methods benefits both patients and surgeons by promoting proper preoperative diagnosis and management and by limiting the unnecessary testing and procedures.[3, 4] FNAC is a relatively simple, reliable, atraumatic, economical and complication free technique for the evaluation of mass lesions. It can also be easily repeated if an adequate aspirate is not obtained.

FNAC has superseded the use of frozen section examination in the diagnosis and management of patients with breast cancer.[5] the biopsy of the palpable breast lesion based on the histological study of the tissue specimens can provide all the reliable information to the surgeon and oncologist for modern therapeutic strategy in decision making regarding the patients treatment. It permits the eventual use of neo adjuvant therapy.[6] It has found to have sensitivity ranging from 82% to 97.5% and specificity of more than 99%.[7]

The studies regarding comparison of FNAC with Histopathology is scant in this part of the country. Hence, this study was undertaken to compare the results of FNAC and tru-cut biopsy in detection of breast lesion pathology.

II. Materials and Methods

A cross sectional study was undertaken to study the clinical profile and correlation between FNAC and Histopathology of breast lumps. This study was conducted in Department of Surgery of Basaveshwara Medical College and Hospital, Chitradurga. A total of 150 patients attending the outpatient department were chosen as study sample. Institutional ethical committee approval was obtained before the study. All the patients included as study sample were obtained the informed consent. All the patients aged more than 18 years presenting with breast lumps were included in the study. Patients with breast pain of any cause were excluded from the study.

The patients thus selected were subjected for detailed history including general physical examination, systemic and local examination. The patients were also subjected for detailed laboratory work up including basic investigations. The sample was obtained by the help of ultrasound with all aseptic precautions. The sample was spread on the slide handed over to pathologist for staining and interpretation. The data thus obtained was entered in a predesigned proforma. The data was analysed using Statistical Package for social services (SPSS vs 18). The categorical variables were analysed using frequencies and percentages.

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III. Results

Table 1 : Demographic Characteristics and Clinical Profile of Patients

		Frequency	Percentage
Age group	Less than 20 years	21	14.0
	21 – 30 years	52	34.7
	31 – 40 years	37	24.7
	41 – 50 years	20	13.3
	51 – 60 years	7	4.7
	More than 60 years	13	8.7
Side of lesion	Bilateral	4	2.7
	Right	68	45.3
	Left	78	52.0
Discharge from nipple	Present	7	4.7
	No	143	95.3
Loss of weight	Present	19	12.7
	No	131	87.3
Family history of breast disease	Yes	4	2.7
	No	146	97.3
	Total	150	100

The mean age of women in this study was 34.98 years. Majority of the women were aged 21 – 30 years, 24.7% were aged between 31 – 40 years, 14% were aged between less than 20 years. About 52% of the women had lump in left breast, 45.3% had lump in right breast and 4% had bilateral lump. The discharge from nipple was present in 4.7% of the patients and 12.7% had history loss of weight in this study. Only 2.7% of the women in this study had family history of breast disease in this study.

Table 2 : Distribution of the Study Group According to Dimension of Lesion

Dimension of the lesion (Length)	Breadth of the lesion	
	1 – 3 cms n (%)	4 – 6 cms n (%)
1 – 3 cms	80 (53.3)	11 (7.3)
4 – 6 cms	24 (16.0)	34 (22.7)
More than 7 cms	0	1 (0.7)
Total	104 (69.3)	46 (30.7)

Table no 2 shows the distribution of the study group according to the dimension of the lesion. About 53.3% of the women had lump measuring 1 – 3 × 1 - 3 cms, 22.7% had lump measuring 4 – 6 × 4 – 6 cms, 16% had lump measuring 4 – 6 × 1 – 3 cms and 7.3% had lump measuring 1 – 3 × 4 – 6 cms.

Table 3 : Distribution of the Study Group According to Findings of FNAC According to Age

Age group	Benign breast disease	Fibroadenoma	Suggestive of malignancy	Suspicious malignancy
Less than 20 years	3 (2.0)	18 (12.0)		
21 – 30 years	17 (11.3)	33 (22.0)		2 (1.3)
31 – 40 years	7 (4.7)	26 (17.3)	2 (1.3)	2 (1.3)
41 – 50 years	3 (2.0)	8 (5.3)	4 (2.7)	5 (3.3)
51 – 60 years			5 (3.3)	2 (1.3)
More than 60 years	2 (1.3)			11 (7.3)
Total	32 (21.3)	85 (56.7)	11 (7.3)	22 (14.7)

In this study, 21.3% of the breast lumps were due to benign breast disease, 56.7% of the women had fibroadenoma of the breast, 14.7% had suspicious malignancy and 7.3% had features suggestive of malignancy. Women aged less than 20 years had benign breast disease and most of the women aged more than 40 years had FNAC features of suspicious malignancy.

Table 4 : Distribution of the Study Group According to Findings of Histopathology According to Age

Age group	Fibroadenoma	Invasive duct carcinoma	Lipoma	Paget's disease of nipple	Phylloids tumour
Less than 20 years	21 (14.0)				
21 – 30 years	48 (32.0)	2 (1.3)	2 (1.3)		
31 – 40 years	31 (20.7)	4 (2.7)			2 (1.3)
41 – 50 years	11 (7.3)	9 (6.0)			
51 – 60 years		7 (4.7)			
More than 60 years		7 (4.7)		4 (2.7)	2 (1.3)
Total	111 (74.0)	29 (19.3)	2 (1.3)	4 (2.7)	4 (2.7)

The histopathological findings in this study had shown that, 74% of the patients had fibroadenoma, 19.3% had invasive duct carcinoma, 2.7% had paget's disease of nipple and phylloides tumour.

Table 5 : Comparison of Findings of Histopathology and FNAC

FNAC results	Histopathology findings				
	Fibroadenoma n (%)	Invasive duct carcinoma n (%)	Lipoma n (%)	Paget's disease of nipple n (%)	Phylloids tumour n (%)
Benign breast disease	26 (17.3)		2 (1.3)		4 (2.7)
Fibro adenoma	85 (56.7)				
Suggestive of malignancy		11 (7.3)			
Suspicious malignancy		18 (12.0)		4 (2.7)	
Total	111 (74.0)	29 (19.3)	2 (1.3)	4 (2.7)	4 (2.7)

On comparison of FNAC findings with histopathology, about 17.3% of the patients in this study who were diagnosed as benign breast disease had fibro adenoma on histopathology, 12% with suspicious malignancy turned out as invasive duct carcinoma.

IV. Discussion

Breast Lumps are common presentations to the surgical outpatient department. Breast lumps are common surgical problem in females. All breast lesions are not malignant but can also be benign. Majority of the benign breast lumps do not progress to cancer.[1]

Hence the diagnostic method of palpable breast lump should be rapid, inexpensive, most accurate and least invasive and should be able to distinguish between benign and malignant lumps in the outpatient clinics. Such methods help the surgeons in early and accurate diagnosis and management and also help the patient in improving the prognosis.[3, 4] Hence a cross sectional study was conducted in order to evaluate and compare the findings of FNAC in outpatient department.

The mean age of the women with breast lump in this study was 34.98 years. Majority of the women belonged to 21 – 40 years. In a study by Homesh et al, the mean age of the women who were subjected for FNAC was 33.36 years.[8] A study in Nepal, had shown that the age of patients ranged from 16 to 72 years and maximum number of patients were in the age group of 20 – 40 years.[9] In contrast to this study, the mean age of the women in study was 46.12 years.[10] Left breast was commonly affected in this study than right breast. Left breast was affected in more than 50% of the patients in this study. In a study by Homesh et al,[8] right breast was involved in 50.3% of the women and left breast was involved in 40.7% of the women.

The dimension of majority of the lesions in this study was between 1 – 3 × 1 - 3 cms. Mean size of the breast lumps in a study In Saudi Arabia was 3.47 cms with a range of 2 – 10 cms in contrary to the findings of this study.[8] More than 50% of the palpable breast lumps were sized between 1 – 2 cms. The decrease in size of the lesion in yielded inadequate aspirate in a study by Bajwa et al.[11] In another study, the size of lesion was ranged between 2 – 13.5 cm with a mean size of 5.33 cm in contrary to the results of this study.[10]

Majority of the women with breast lump were found to have fibroadenoma in this study. It was followed by benign breast disease and feature suggestive or suspicious of malignancy. About 17.3% of the patients in this study who were diagnosed as benign breast disease had fibro adenoma, 12% with suspicious malignancy turned out as invasive duct carcinoma. In a study, Hirachand et al, have found that 64.2% cases with breast lump had fibro adenoma of the breast, 7.5% reported benign proliferative diseases of the breast and 16% reported to be having malignant breast lesions. There were 3.8% of the cases with epithelial hyperplasia with atypia, 3.8% with duct ectasia and 1.9% had phylloids tumour. The histopathology had shown that 64.2% were turned out to be fibro adenoma, 5.6% turned out to be fibrocystic disease, 3.8% had duct ectasia, 1.9% had phylloids tumour and 1.9% had chronic abscess. The FNAC was not correlated with the histopathological findings in three patients.[9] In a study by Bajwa et al, proliferative and neoplastic lesions accounted for 71% of the total samples in contrary to the results of our study. Fibroadenoma accounted for 48.1% of the cases, infiltrating ductal carcinoma was found in 26.6% of the cases.[11] in a study by Bukhari et al, benign lesions were found in 60% of the cases, 20% had inflammatory aspirates and 40% of the women with breast lump had benign proliferative lesions.[12]

This study was mainly under taken to study the value of FNAC and histopathology in diagnosis of breast lumps. Breast lumps may range from simple benign tumors to invasive malignancy. Accurate and simple diagnostic measures can detect the nature of the lump at an earliest possible time and helps in early management can improve the prognosis. The results of this study had shown that, even though FNAC was considered as a simple, cost effective and easy method, it had low sensitivity in diagnosis compared to trucut biopsy.

References Références Referencias

1. Johnson C, Benign breast disease, Nurse Pract Forum, 1999, 10 (3): 137 – 144.
2. Vaile MSB, Calnan M, Rutter DR, Wall B, Breast cancer screening services in three areas: uptake and satisfaction. Journal of Public Health Medicine 1993; 15:37-45.

3. Thomas M.J, Fitz harris B.M, Redding H.W, et al. "clinical examination, xeromammography and fine-needle aspiration cytology in diagnosis of breast tumors". BMJ 1978; 2:1139-41.
4. Yell and A, graham D.M, trott A.P, et al. "Diagnosing breast carcinoma in young women". BMJ 1991; 302:618-20.
5. Bukhari MH, Arshad M, Jamal S, Niazia S, Bashir S, Bakhshi IM *et al.* Use of fine needle aspiration cytology in the evaluation of breast lumps. *Pathology Research International. 2011;* 01: 01-10.
6. Bajwa R and Zulfiqar T. Association of fine needle aspiration cytology with tumor size in palpable breast lesions. *Biomedica. 2010;* 26: 124-29.
7. Yong WS, Chia KH, Poh WT, Wong OY. A comparison of trucut biopsy with fine needle aspiration cytology in the diagnosis of breast cancer. Singapore Med J 1999; 40(09): 123-123.
8. Homesh NA, Issa MA, El-Sofiani HA, The diagnostic accuracy of fine needle aspiration cytology versus core needle biopsy for palpable breast lump (s), Saudi Med J 2005; Vol. 26 (1): 42-46.
9. Hirachand S, Lakhey M, Akthar J, Ghimire R, Dhakhwan R, Comparison of FNAC and open biopsy in palpable breast lumps, Health renaissance, Jan – April, 2010:7:1: 9 – 12.
10. Pruthi A, Detection and evaluation of a palpable breast mass, *Mayo Clin Proc*. 2001; 76: 641-648.
11. Bajwa R, Zulfiqar T. Association of fine needle aspiration cytology with tumor size in palpable breast lesions. *Biomedica. 2010;* 26: 124-29.
12. Bukhari MH, Arshad M, Jamal S, Niazia S, Bashir S, Bakhshi IM *et al.* Use of fine needle aspiration cytology in the evaluation of breast lumps. *Pathology Research International. 2011;* 01: 01-10.

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Indications and Outcomes of Abdominoplasty in Sudanese Patients

By Abdulhadi Yagoub Edries Mahamoud & Shadad M.Mahmoud

Indications and Outcomes of Abdominoplasty in Sudanese Patients, Sudan

Abstract- *Objective:* This study was designed to evaluate the epidemiology, and outcome of abdominoplasty at four different plastic units in Khartoum state.

Methods: It is a descriptive, prospective, cross sectional study conducted at Soba University Hospital, Khartoum Teaching Hospital, Omdurman Teaching Hospital and Omdurman Military Hospital in the period between 1st of October 2012 to 1st October 2013. Forty four abdominoplasty procedures performed were included. Follow-up period was for one year from time of surgery. Variables studied included patient characteristics, clinical presentation, indications, complications, and patient satisfaction with the final result.

Results: Most of the patients (95%) were female, 76% of them were married. Mean age at the time of operation was 45 ± years. The youngest patient was 28 years old and the oldst was 71 years old .The majority of patients (72.7%) were from central Sudan. Average body mass index (BMI) was 25kg/m2. Seventy-sevent percent of patients (34 patients) presented with hernia as the main complain. 79% were seeking cosmetic outcome. 54% had pain and 50% reported interference with acivities.

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Indications and Outcomes of Abdominoplasty in Sudanese Patients

Abdulhadi Yagoub Edries Mahamoud [α] & Shadad M.Mahmoud [σ]

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Minor wound complications occurred in young age group(66.6% vs.33.4%), while major in elder. No death encountered.

Average duration of hospital stay was four days. Fourty three patients feel satisfied by the results of surgery.

Conclusions: Abdominoplasty is a safe procedure in experienced hands. Selected patients with huge ventral hernia should be offered the procedure before simply attempting herniorrhaphy because it is reconstructive and aesthetic as well.

Results: This is descriptive, prospective, multicenteric , cross sectional, study in which forty four patients were admitted to Soba University Hospital, Khartoum Teaching Hospital, Omdurman Teaching Hospital and Omdurman Military Hospital in the period between 1st of October 2012 to 1st October 2013 . 44 patients were enrolled in the study. Forty two patients (95.5%) were female(Figure 1),76% of them were married.

I. Introduction

Abdominoplasty is one of the most commonly performed aesthetic procedures, has undergone a significant evolution over the past several decades. Kelly was one of the first surgeons to attempt to correct excess abdominal skin and fat. The prevalence of obesity in health care settings is increasing to alarming levels. According to the American Society of Bariatric Surgery (ASBS), 200,000 patients will undergo massive weight loss surgery in a year, and 75% of them will seek a plastic surgeon for body contouring after the weight loss surgery[1, 2] .

The number of abdominoplasty procedures performed world-wide has increased,and became the fourth between the plastic surgery procedures as shown on the table below[3] :

Rank and Number of World-Wide Surgical Procedures Performed by plastic Surgeons 2010

Rank	Surgical Procedure	Total	Percentage
1	Lipoplasty	1,268,287	19.9%
2	Breast augmentation	1,205,251	18.9%
3	Blepharoplasty	703,610	11.0%
4	Abdominoplasty	553,399	8.7%
5	Rhinoplasty	478,023	7.5%
6	Breast lift	444,222	7.0%
7	breast reduction (women)	428,129	6.7%
8	Face lift	308,926	4.8%
9	Gynecomastia treatment (men)	174,806	2.7%
10	Otoplasty	167,772	2.7%

In South Africa abdominoplasty is started to increase but there is no data reflecting that[4] .

In Nigeria it became to include 10% of plastic surgery procedures[5] .

In Arab countries, the Cosmetic surgeries started to be public, especially after advancement in medical equipments and availability of well trained highly qualified Arab Plastic Surgeons, since eighties.

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Many Centers of plastic surgery are located in the Middle East where women tend to have multiple children, tummy tuck surgery is the second most common operation after liposuction[6] .

In Sudan one retrospective study was carried out to evaluate efficacy of liposuction and transfer in 21 patients[7] .

It is a common in female, according to the American Academy of Plastic Surgeons, in 2001 there were approximately 58,567 abdominoplasties performed in the United States female patients accounted for 97% of all abdominoplasties[8] .

Common age of patients of abdominoplasty range between 30 years to 50 years. Because it is in this age group that the main problem of abdominal flabbiness, surgical scar,and flaccidity are seen as a result of multiple pregnancies[9] .

a) Types of Abdominal Contour Deformity

In 1988 Bozola and colleagues published a classification including five different groups of aesthetic deformities of the abdomen with assigned operative procedures. Group I comprised younger nulliparous women with normal elastic skin and good muscle tone but excess adipose tissue in the subcutaneous layer in the abdominal area. Group II patients usually had at least one pregnancy, mild lower abdominal skin laxity, diastasis recti, and excess adipose tissue most often present inferior to the umbilicus. Group III includes patients with significant infraumbilical skin, excess adiposity, and abdominal muscle laxity with diastasis of the rectus and oblique muscles. In addition, patients often have striae after multiple pregnancies. Patients in group IV and V have severe skin and fat excess superior and inferior to the umbilicus, accompanied by mild to severe diastasis of the rectus and oblique muscles. Group V patients addition they have a hernia[10, 11].

b) Types of Abdominoplasy

Recent advances in cosmetic surgery have given way to variations of abdominoplasty procedures. However some guiding principles must be noted. First, ensure that the incision and subsequent excision address the deformity[12,13, 14] . For type I is suction-assisted lipectomy alone, type II and III mini-abdominoplasty, type IV modified abdominoplasty, and type V abdominoplasty with suction-assisted lipectomy[10, 11].

c) Complications

As with all body contouring procedures, complications can occur. Major complication (Hematoma requiring surgical intervention ,seroma requiring aspiration, or surgical drainage, cellulitis or abscess requiring hospitalization, DVT or PE, and recurrent of hernia). Minor complication (hematoma or seroma requiring no intervention, small wound dehiscence,minor cellulitis and neuropathic pain) [15].

The average patient age at the time of surgery was 45 years ± SD (range 28-71 years) (Figure 1).

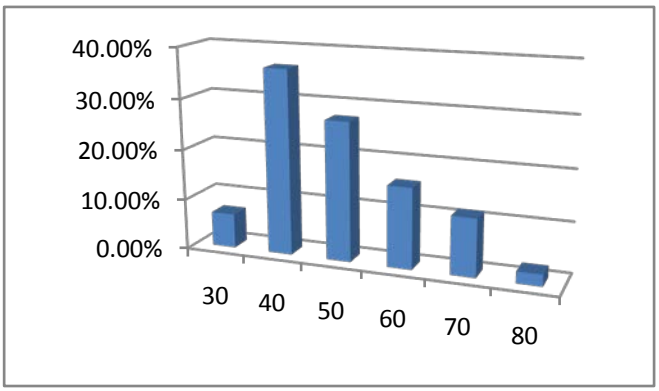


Figure 1 : Age Distribution of the Patients

Number of pregnancies preceding surgery ranged between (0 to 8 pregnancies) with mean (4 pregnancies).

All patients were non smokers.

Thirty two patients (72.7%) reside in the middle of Sudan, while six patients from West (13.6%), three patients from East (6.8%), two patients from North (4.5%) and one patient from South (2.3%).

Patient's weights ranged between (70-155kg) with a mean of 95.4 kg± SD, and average body mass index (BMI) of 25kg/ m^2 (Table 1).

Table 1 : Complications of Abdominoplasty (N=44)

Complication	Number(percentage)
Infection	10 (22.7%)
Seroma	4 (9.1%)
Cutaneous necrosis	3 (6.8%)
Decrease skin sensitivity	11(25%)
Recurrent of hernia	1 (2.2%)
VTE	0(0%)
Hematoma	0(0%)

Regarding patients complaints, 77% of patients (34 patients) presented with hernia as a main complain, and all of them have previous surgeries.Thirty two of them were female, from these 26 have previous Cesarean section(C/S) and six have other surgeries ,79% were seeking abdominoplasty for body contouring, 54% had pain and 50% interference with activities.

Mesh was used for hernioplasty in twenty one of patients with hernia (62%), while anatomical repair was

preferred in thirteen of them (38%). An incidental finding of another hernia encountered in one patient.

Thirty five patients had type V abdominal wall deformity (79.5%), four type 1V (9.1%), four type 111 (9.1%) and one type 11 (2.3%) (Figure 2).

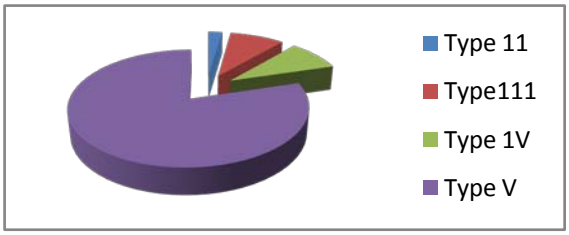


Figure 2 : Types of Abdominal Wall Contour of the Patients

The commonest type of the procedure performed was mini abdominoplasty in 37 of patients (84.1%) , followed by complete abominoplasty in 6 patients (13.6%) and one reverse abdominoplasty (2.3%).

The most common postoperative wound complications were infection in ten patients (22.7%), all of these were superficial.seroma in four patients (9.1%),one patient needed admission for surgical drain. cutaneous necrosis in three patients (6.8%), all were minor necrosis. and decreased skin sensation in eleven patients (25%). Veinous thromboembolisms (VTE) had not been encountered in studied group (Table 1). Readmission done for one patient with large seroma. Recurrent of hernia occur in one patient. No deaths encountered.

There was no correlation between (BMI) and seroma formation(Figure 3).

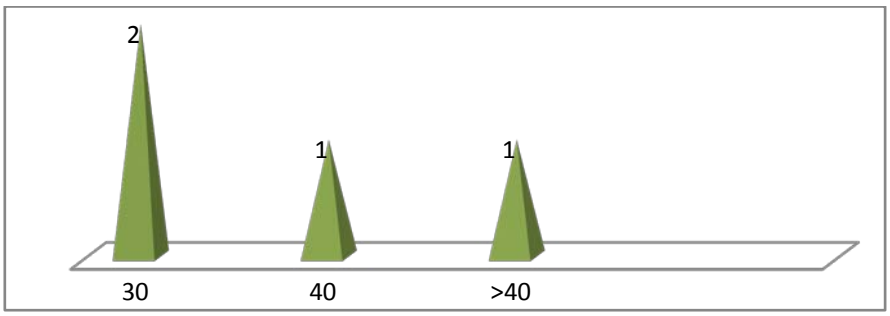


Figure 3 : Relation between BMI and Seroma Formation (N=44)

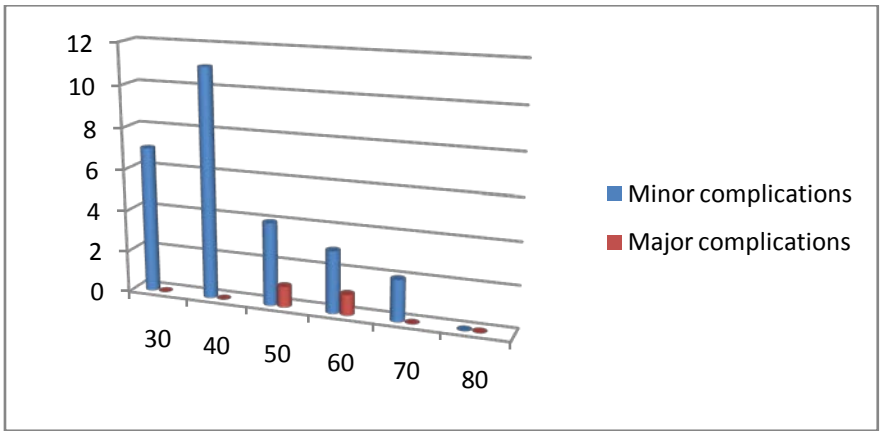
Patients previous surgery displayed an increased major complication rate(6.8% vs.0.0% p<0.05), while for minor (62.2% vs.31% ;p<0.05). About the comorbidity, four of patients have co morbid disease, two of them developed major complications (6.8%), while the remaining two developed minor complications (6.8%) (Table2).

Table 2 : Relation between Minor and Major Complications with Previous Surgery and Comorbidity

	Previous surgery		PV	Co morbidity		PV
	Yes	No		Yes	No	
Minor	18(62.2%)	9(31%)	<0.05	2(6.8%)	25(86.2%)	<0.05
Major	2 (6.8%)	0(0.0%)	<0.05	2(6.8%)	0(0.0%)	<0.05

About the relation between the age and wound complications minor complications occurred in patients younger than 50years(66.6% vs.33.4% p<0.05),but major complications occurred exclusively in elder 50 years (Figure 4).

Figure 4 : Relation between Age and Complications (N=44)



Average duration of hospital stay was four days.
Predominant resumed full activites after 6 weeks.

All patients satisfied by their operations except one whose her hernia recurred.

II. Discussion

Abdominoplasty is a well-established operation to remove abdominal wall tissue excess, that improve quality of life, both functionally and psychologically[16]. As in other studies in western countries there is a female preponderance for aesthetic surgery[8], (95%) of our patients were female, because females are more concern about their body appearance than males. Obesity and access body fat is more common among females[1, 4, 17].

Hormonal effect on laxity of abdominal wall of female, and majority of our patients were multipuras with previous caesarian sections that weakening their abdominal wall. Pregnancy also induce significant fluctuations in weight that prone diastasis recti, wherein the left and right abdominal muscles separate along their midline[9]. All these contribute to the domination of the females.

Generally, patients who want a flat and attractive contour of the abdomen are women between the ages of 30 to 60 years[8].The mean age of the patients in this study sample was 45 years ± SD. In study done in USA was found that mean age of abdominoplasty was 44.5years, which was comparable to our study[9, 18]. Because it is in this age group that the main problem of abdominal laxity, and surgical scar are seen as a result of multiple pregnancies.

In our series the average (BMI) was 25kg/ m^2, that fall in category of healthy and overwight. The prevalence of the obesity in developing countries as Sudan is one of them, is not like in the developed countries with the highest global incidence of obesity [1,2].

There are certainly patients that fall outside the range of BMI for abdominoplasty, but this is not thought to be a problem unless other medical problems coexist [19, 20, 21].

The majority of the patients were from central region of the Sudan (including capital) (72.7%), this distribution may be explained by accessibility to the health services. The level of awareness among the Sudanese at the peripheries about the availability of aesthetic surgery within the country even among doctors is low.

Good candidates for abdominoplasty are individuals in good health who have tried to address their issues with diet, exercise and other means with little or no results[4].Despite 20% of patients used exercise with average duration of seven months, while 30% used abdominal belt with average duration of twelve months, for solving their abdominal contour deformity. But majority of patients were not satisfied by with these means, because most of them have a hernia, that need operative intervention. While remainders have poor compliance by these methods, as diet and exercise need for long period.

The pattern of requests here differs in some respects from western centers, seventy-seven percent of patients (34 patients) who seeked abdominal contouring procedures presented with abdominal hernias in addition to abdominal contour defect, this common indication in our environment is uncommon as in western populations, that range between 12% to 35%[13,14,22,23]. This may be attributed to that majority of our patients were female with multiple pregnancies, and most of them had Cesarean section. Delivery via Cesarean section adds weakness to the lower abdominal wall muscles [24, 25].

Also abdominal hernia frequently occurs along with an excess of skin and subcutaneous tissue [26].

The type of abdominoplasty is selected in the context of abdominal wall contour, that address complexity of abdomen anatomical types, deformities and type of procedure that is suitable to deal with [10, 11].

In spite of majority our patients body contour was type V deformity in (79.5%) of patients, that suitable for complete abdominoplasty , but mini abdominoplasty was the main surgical procedure done to the studied group (84.1%) , this may be attributed to that patients were overweight not obese and, majority of patients seeking for their hernia repair, so they have minimal expectation about contouring.

In our series we never encountered other types of abdominoplasty except mini abdominoplasty, complete abdominoplasty and one reverse abdominoplasty this may be due to surgeons prefer.

There are complications with any major surgery, and a bdominoplasty procedure is no exception.

The most common postoperative complication in this studied population was infection (22.7%). This correlates with previously published literatures on abdominoplasty, also correlated to two studies one done in Egypt[27], and another in Italy[28], with wound infection developed in 20% and 25% respectively.

Although seroma is often cited as the most common complication, incidence varies greatly from 10% to 42%[29, 30, 31, 32]. In this study seroma occurred in (9.1%) of patients. All our patients had one or two drainage catheters placed, which were removed when the total daily output was 50ml or less. The main procedure performed was mini abdominoplasty which has less tissue dissection, and creates small dead space for collection of seroma.

Liposuction is not performed to patients in studied group, as concomitant liposuction of the flanks and abdomen with the addition of aggressive undermining leads to higher seroma rates. This association is likely multifactorial and may be secondary to increased resorptive demands placed on the abdominal lymphatics in the setting of greater dead space and larger fluid shifts as a result of liposuction.

There is no correlation between seroma formation and increase BMI, which reverse to study conducted by Kim and Steven that correlated increase risk of seroma with increase BMI[31], also another study done in Jordan between June 1997 and June 2007 which support that [33]this may be owning to the above mentioned factors.

Cutaneous necrosis occurred in three of patients (6.8%), in one study conduct in Egypt post abdominoplasty skin necrosis found in 12% of patients [27]. All our patients were not smoking and their average weight was 95.4 kg, which all contribute to tissue oxygenation, enhancing of wound healing and prevention of skin necrosis [15, 34].

Regarding patient's wound infection, seroma and cutaneous necrosis patients were put on oral antibiotics and the wound edges were debrided of devitalized tissue as needed. All suspected infections resolved with this treatment, except one patient was hospitalized because of massive seroma after two months of operation, that was evacuated about seven liters, and admitted for ten days with IV antibiotics(third generation cephalosporin) , then secondary suturing done for her.

Recurrence of hernia occur in one patient (2.3%), in compare to (9%) in different studies[35, 36].Mesh repair done to (62%) of patients, which has low recurrent rate that range between 0.5% to 1%[37].

Also our duration of follow up was short (one year), that was not enough to accurate estimate recurrence rate.

Majority of our patients were overweight not obese and their mobilization postoperatively was early , no one was smoker and most of them they had active mobile life style ,due to all these may be the cause of non reported any case of VTE ,as found in 0.8%- 8% of abdominoplasty[36] .

Van Uchelen et al, reported on his study, a much higher incidence of wound complications in men when compared with women[8]. Our results may be biased because of the small number of male patients in our series.

Patients with previous history of abdominal surgery seem to be at risk for minor and major complications 6.8% and 62.2%, respectively. Seventy seven percent of our patients (34 patients) have previous surgeries.Thirty two of them were female, from these 26 have previous Cesarean section(C/S). Previous operations lead to more tissue damage (to nerve decrease sensation, to vessels impair wound healing, to muscle and fascia wall defect) [34,38]. This is reverse to the study done between June 1994 to April 2004, study included 139 patients. Showed that patients without previous surgery displayed a significantly increased complication rate (43.2% vs. 22.1% for minor and 25% vs. 5.3% for major complications) [39].

About the co morbidity, four of patients have co morbid disease, two of them developed major complications(6.8%), while the remaining two developed minor complications(6.8%). Comorbid factors play a significant role , patients who smoke or have diabetes, hypertension, a (BMI)greater than category I, or asthma have significantly higher complication rates[34]

In compare between the age and wound complications rate, minor complications occurred in young age groups (66.6%), while major complications occurred exclusively in old age groups.

Elder age group have comorbid disease more than young age, so they are more vulnerable to major complications[36] .More than 70% of our patients were Younger than 50years, these contribute on their domination the minor complications .

In relation to hospital stay, the overall average in this series was four days, compared with the previously reported that vary from 1 to 6 days [29, 40].

Regarding the duration of resuming full activities after operation was sex weeks in the predominant of the patients.

Concerning patients satisfaction the majority of patients (97.7%) satisfied with operation because they felt that their chief symptoms were improved.

Those patients with and without complications satisfaction was seems that post operative complications do not negatively affect all patients satisfaction.

The limitations of our study were the low number of patients, this may be due to fact that prevalence of obesity in africa was estimated to be 10% [41];and Sudan is integral part of it. While in USA 2007,33% of men and 36% of women were obese [42] .

Abdominoplasty has successful rate in Sudan, but success is determined by the qualifications and experience of the surgeon performing the procedure, and the health and lifestyle of the patient.

Awareness of our community to abdominoplasty is low, and number of plastic surgeon are few, and they are present mainly in the center, all these play role in the limitation of the procedure.

III. Recommendation

- Abdominoplasty approach with mesh hernia repair is extremely helpful, that reduce the incidence of recurrence of hernia. Other hernias, which may have not been detected can be found.
- The objectives of the abdominoplasty hernia repair are to reconstruct the structural integrity of the abdominal wall, while improving the contour of the trunk.
- Using of drains decrease seroma formation, and post operative wound infection.
- Type of abdominoplasty should be individualized to accommodate the patient's anatomy and desires. So different types of abdominoplasty need to be familiar by all plastic surgeons.
- Training of surgeons and increase awareness of community about abdominoplasty surgery, as it is reconstructive and cosmetic,with satisfacted results, will assist in improved turnout and outcomes.

References Références Referencias

1. Christakis NA, Fowler JH. The spread of obesity in a large social network over 32 years. *N Engl J Med*. Jul 26 2007; 357(4):370-9.
2. Glicenstein J. Difficulties of surgical treatment of abdominal dermodystrophies. *Ann Chir Plast*. 1975; 20(2):147-55.
3. Sinno S, Shah S, Kenton K, Brubaker L, Angelats J, Vandevender D, et al. Assessing the safety and efficacy of combined abdominoplasty and gynecologic surgery. *Ann Plast Surg*. Sep 2011; 67(3):272-4.
4. Mast BA. Safety and efficacy of outpatient full abdominoplasty. *Ann Plast Surg* 2005; 54:256-259.
5. Adigun IA, Oluwatosin OM. Knowledge of the scope of plastic and reconstructive surgery by surgical specialists at Ibadan and Ilorin, Nigeria. *Niger J Med*.2003; 12 (2):91-3
6. Ahmed A, Amir El, Mohamed FA, Mohamed A S. Technical Considerations in Abdominoplasty of Huge Abdomen. *American Journal of Cosmetic Surgery*.Dec 2012; 29(4) 252-259.
7. Hisham A. Role of liposuction in sculpturing of body contour after benign lipoma suction, Abdominoplasty and lipo transfer .*LIPO international journal of cosmetic*. May 2011;9:4
8. Van U, Veroen H,Weker M,Kon D.Abdominoplasty and liposuction. *Plastic and Reconstructive surgeryJ* . June 2001; 107:1869.
9. Falzone M, McCaslin S, Patel H,Ulery PD. Abdominal wall deformity in females.*Columbia University Journal of Women's Health Physical Therapy*.spring 2005;29(1):11-16.
10. Bouchard C, Bray GA, Hubbard VS. Basic and clinical aspects of regional fat distributions. *Am J Clin Nutr* 1990; 52:946.
11. Borkan GA, Norris AH. Fat redistribution and the changing body dimensions of the adult. *Hum Biol* 1977; 49:495.
12. Regnault P. Abdominoplasty by the W technique. *Plast Reconstr Surg*. Mar 1975;55(3):265-74.
13. Grazer F. Abdominoplasty in Philadelphia. *Plastic SurgeryJ*. 1990; 69:329.
14. Baroudi R, Moraes M. A "bicycle-handlebar" type of incision for primary and secondary abdominoplasty. *Aesthetic Plast Surg*. Jul-Aug 1995; 19(4):307-20.
15. Murshid M,Khalid K.N,Shakir A,Bener A. Complication rate of abdominoplasty between morbidly obese and overwieght.*plastic,Reconstructive & Aesthetic Surgery J*.May 2010; 63(5) 820-825.
16. Thorek M. Plastic reconstruction of the female breast and abdomen. *Am J Surg*. 1939; 43:268.
17. Lockwood T. High lateral-tension abdominoplasty with superficial fascial system suspension. *Plast Reconstr Surg*. 1995; 96:603-608.
18. Ramirez OM. Abdominoplasty and abdominal wall rehabilitation with a comprehensive approach. *Plast Reconstr Surg*. Jan 2011; 105(1):425-35.
19. Aly AS, Louis ST. Body contouring after massive weight loss.*Quality Medical Publishing J*. 2006; 59.
20. Glicenstein J. Difficulties of surgical treatment of abdominal dermodystrophies.*Ann Chir Plast*.1975; 20(2):147-55.

21. Song AY, Rubin JP, Thomas V, Dudas JR, Marra KG, Fernstrom, MH. Body image and quality of life in post massive weight loss body contouring patients. *Obesity Silver Spring*.2006 Sep; 14(9):1626-36.
22. Psillakis JM. Abdominoplasty Some ideas to improve results. *Aesth Plast Surg*. 1978; 2:205.
23. Greminger R. F. The mini-abdominoplasty. *Plast. Reconstr.Surg.* 1987; 79: 356.
24. Pitanguy I. Evaluation of body contouring surgery for 30-year perspective. *Plast Reconstr Surg*. Apr 2000; 105(4):1499-514.
25. Psillakis JM. Abdominoplasty: Some ideas to improve results. *Aesth Plast Surg*. 1978; 2:205.
26. Friedland JA, Maffi TR. Abdominoplasty. *Plast Reconstr Surg*.2008; 121(4):1-11.
27. Wael N.T,Ahmad S. H, Nadine A. S.Feasibility of abdominoplasty with Cesarean section. *Int J Womens Health.* 2012; 4: 115–121.
28. Gravante G, Araco A, Sorge R, Araco F, Delogu D, Cervelli V. Complications of abdominal dermo-lipectomy.*Obesity Surgery* .Oct 2007; 17 (10): 1325-31.
29. Grazer FM, Goldwyn RM. Abdominoplasty assessed by survey, with emphasis on complications. *Plast Reconstr Surg*. Apr 1977; 59(4):513-7.
30. Nahas FX, Ferreira LM, Ghelfond C. Does quilting suture prevent seroma in abdominoplasty?. *Plast Reconstr Surg*. Mar 2007;119(3):1060-4.(52)
31. Kim J, Stevenson TR. Abdominoplasty, liposuction of the flanks, and obesity: analyzing risk factors for seroma formation. *Plast Reconstr Surg*. Mar 2006; 117(3):773-9.
32. Rogliani M, Silvi E, Labardi L, Maggiulli F, Cervelli V. Obese and nonobese patients: complications of abdominoplasty. *Ann Plast Surg*. Sep 2006; 57(3):336-8.
33. Jabaiti D, Samir K. Determine wound complication rate following abdominoplasty University Hospital, Jordan. *American Journal of Applied Sciences* .Jun. 2008; 6 (5): 897-901.
34. Vastine VL, Morgan RF, Williams GS, et al. Wound complications of abdominoplasty in obese patients. *Plast Surg*. 1999; 42(1):34-39.
35. Gardner P, Vasconez L. Repair of abdominal wall hernia through the abdominoplasty approach. *Oper Tech in Plast Reconstr Surg*.1996; 3(1): 62-66.
36. Allam A.M.: Local complications in abdominoplasty, our experience with progressive tension sutures technique. *Tanta. M.J.* 2002; 30 (4): 894.
37. Lichtenstein IL, Shulman AG, Amid PK. The tension free hernioplasty.*Am J Surg*. 1989; 157:188-193.
38. Matarasso A, Swift RW, Rankin M. Abdominoplasty and abdominal contour surgery, a national plastic surgery survey. *Plast Reconstr Surg*. May 2006; 117(6):1797-808.
39. Momeni A, Heier M, Bannasch H, Stark GB. Complications in abdominoplasty: a risk factor analysis. *Plast Reconstr Aesthet Surg*.Oct 2009;62(10):125-4.
40. Pitanguy I. Evaluation of body contouring surgery today. *Plast Reconstr Surg*. Apr 2000; 105(4): 1499-514.
41. Abubakari AR, Lauder W, Agyemang C, Jones M, Kirk A.prevalence and time trends in obesity among adult West African population. *Obes Rev July* 200; 9(4):297-311.
42. Bessesen DH. Update on obesity. *J.Clin. Endocrinol. Metab*.Jun 2008; 93(6):2027-34).

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Use of Transcatheter Arterial Embolization in High Risk Patients with Upper Gastrointestinal Bleeding

By Asiriarachchi & Servaise De Kock

Introduction- Upper gastro intestinal bleeding is a common presentation to the Emergency Department; aproportion of these bleeds are secondary to duodenal ulcers. The management of thesein young, fit patients who can tolerate a second bleed physiologically is well established. However in the elderly frail patient a second bleed may be terminal.

Options for treatment for these blee ding duodenal ulcers (apart from resuscitation, including transfusion if need be and medical management with intra venous Proton Pump Inhibitors), include endoscopic control, laparotomy with under running of the bleeding artery and endovascular approaches. 98 percent of patients can be successfully managed with endoscopy and epinephrine injection, coagulation and / or clipping of the bleeder. The dilemma exists in those patients whom are high risk for surgical intervention (laparotomy) should a re-bleed occur. In these patients transcatheter arterial embolization has become a favourable treatment modality and especially in high risk patients, selective transcatheterembolisationhas been established as a safe approach (1,2,3,5,9).

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Options for treatment for these bleeding duodenal ulcers (apart from resuscitation, including transfusion if need be and medical management with intra venous Proton Pump Inhibitors), include endoscopic control, laparotomy with under running of the bleeding artery and endovascular approaches. 98 percent of patients can be successfully managed with endoscopy and epinephrine injection, coagulation and / or clipping of the bleeder. The dilemma exists in those patients whom are high risk for surgical intervention (laparotomy) should a re-bleed occur. In these patients transcatheter arterial embolization has become a favourable treatment modality and especially in high risk patients, selective transcatheterembolisationhas been established as a safe approach (1,2,3,5,9).

In this case report we discuss the management of a 98 year old male with a duodenal ulcer with stigmata of recent bleed who presented to our department in a rural setting in Victoria, Australia.

II. Case Study

Mr A, a 98 year old male (with a background history of hypertension, a newly inserted pacemaker and not on any anti-coagulation), presented to our Emergency Department with epigastric pain, melena and a Haemoglobin of 68. He was cardiovascularly unstable and following resuscitation (including transfusion) was taken for endoscopy which demonstrated a large duodenal ulcer with a fresh clot and a visible artery. This was managed with peri ulcer injectionof (adrenaline).Attempts to place a clip on the artery was unsuccessful due to the position.

He was closely observed clinically and his haemoglobin was followed daily. His haemoglobin dropped again on day three and he was again transfused and taken for endoscopy which now demonstrated a healed ulcer with no stigmata of re-bleed (photo 2).He was again managed conservatively and on day eight again dropped his haemoglobin.

Re-scope at this stage demonstrated the healed ulcer again, but the gastro-duodenal artery with a bright spot was noted, with no blood noted in the lumen. At this stage he was referred for angiography and embolisation of the gastro duodenal artery,(image 3), with good outcome.

III. Discussion and Literature Review

Our patient was undoubtedly not fit for a laparotomy and in these patients with multiple medical comorbidities embolization therapy is a safe, effective treatment modality and has a good prognosis.

Since its introduction in 1972 embolotherapy has become a possible modality in treatment of patients with upper gastrointestinal bleeding. Angiography involves either a brachial or femoral approach. Identification of the appropriate anatomy is important; particularly the coeliac axis, the common hepatic and delineating the anatomy involving the gastro duodenal artery, splenic, short gastric, left gastric. In general dynamic angiography via use of selective catheters can denote extravasation of contrast and thus ability to use either coils or particles to catheterize bleeding points as was the case with our patients (image 4 and 5). This illustrates a dynamic angiogram demonstrating the coeliac axis, regional anatomy and post embolization images as described in the literature. (3,6,10).

There have been repeated discussions with importance of placing clips via initial endoscopy at the vicinity of the ulcer to aid the radiologist to identify the location of the bleeding vessel. This is an important pre adjuvant to formal transcatheterembolization and even though the artery may not be assessable to clipping itself in our case, would have been helpful if placed close to the ulcer and in future we would attempt to do this in selective cases.

There is extensive literature denoting the success with clinical documented rates of close to 100

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percent, with very minimal procedure related complications.Procedure complications relate to type of device used for transcatheterembolization.Main complications (1 to 8%) relate to in advent coiling of other vessels which can result in either re bleeding or secondary duodenal stenosis due to embolisation of muscular branches. (8,11,12).

Our patient had coiling of the gastro duodenal artery, but particles and spongesare also adjuvant options which interventional radiologists do use.

Retrospectively it was thought that the gastro-duodenal artery was not noted on the second endoscopy because it was hiding behind the ridge of the ulcer. Therefore it is recommended to attempt to inspect the whole ulcer bed. If this was noted at this time we would have referred the patient earlier for embolization.

IV. Conclusion

Within a rural hospital setting with no onsite access to endovascular embolization early recognition of the unwell, high risk patient that needs embolization is pertinent. Endoscopy still plays a major role in the management of these patients. It is important to inspect the whole ulcer bed for a visible vessel and be aware that it may be hiding behind the ridge of the ulcer. Placement of a clip near the ulcer can be helpful to the interventional radiologist to identify the gastro-duodenal artery.

Advances in arterial embolization procedures have improved the outcome of these high risk patients and access to transport measures in a rural setting is of upmost importance.

Early recognition of the high risk bleeding ulcer in the high risk patient is important to enable timely referral for selective angiography and embolization.

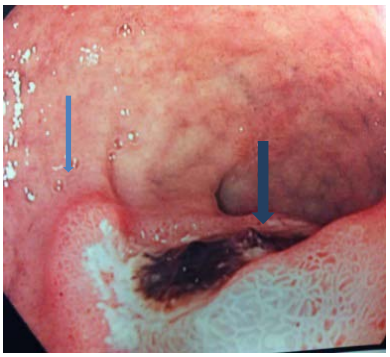

Image 1 : Large Duodenal Ulcer with Fresh Clot and Visible Vessel

Image 2 : Healed Ulcer on Day 4 - Gastro-Dudenal Artery not Noted Behind Ulcer Ridge

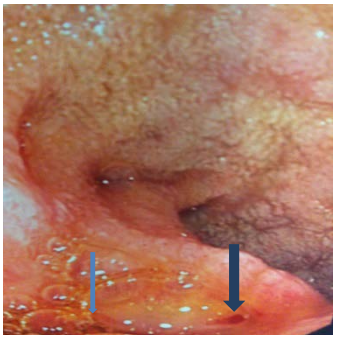

Image 3 : Healed Ulcer with Visible Gastro-Duodenal Artery

Image 4 : Angiography Pre Embolisation

Image 5 : Successful Coiling of Gastro-Duodenal Artery

References Références Referencias

1. Aina R, Oliva VL, Therasse E, Perreault P, Bui BT, Dufresne MP, Soulez G. Arterial embolotherapy for upper gastrointestinal hemorrhage: outcome

assessment. J Vascular Interventional Radiology. 2001; 12:195–200.
2. Encarnacion CE, Kadir S, Beam CA, Payne CS. Gastrointestinal bleeding: treatment with gastrointestinal arterial embolization. Radiology. 1992; 183:505–508.
3. Eriksson LG, Ljungdahl M, Sundbom M, Nyman R. Transcatheter arterial embolization versus surgery in the treatment of upper gastrointestinal bleeding after therapeutic endoscopy failure. J Vasc Interventional Radiology. 2008; 19:1413–1418.
4. Goldman ML, LAND WC, Bradley EL, Anderson RT. Transcatheter therapeutic embolization in the management of massive upper gastrointestinal bleeding. Radiology. 1976; 120:513–521.
5. Ichiro I, Shushi H, Akihiko I, Yasuhiko I, Yasuyuki Y (2011) Empiric transcatheter arterial embolization for massive bleeding from duodenal ulcers: efficacy and complications. J Vascular Interventional Radiology 22:911–916.
6. Lieberman DA, Keller FA, Katon RM et al (1984) Arterial. embolization for massive upper gastrointestinal tract bleeding in poor surgical candidates. J Gastroenterology 86:876–885.
7. Loffroy R, Rao P, Ota S et al (2010) Embolization of acute nonvariceal upper gastrointestinal hemorrhage resistant to endoscopic treatment: results and predictors of recurrent bleeding. Cardiovascular Interventional Radiology 33: 1088–1100.
8. P. Chevallier, S. Novellas, G. Vanbiervliet et al., "Transcatheter embolization for endoscopically unmanageable acute nonvariceal upper gastrointestinal hemorrhage," Journal de Radiologie, vol. 88, no. 2, pp. 251–258, 2007.
9. K. Palmer, "Acute upper gastrointestinal haemorrhage," British Medical Bulletin, vol. 83, no. 1, pp. 307–324, 2007.
10. K.-K. Tan, D. Wong, and R. Sim, "Superselective embolization for lower gastrointestinal hemorrhage: an institutional review over 7 years," World Journal of Surgery, vol. 32, no. 12, pp. 2707–2715, 2008.
11. M. Miller Jr. and T. P. Smith, "Angiographic diagnosis and endovascular management of nonvariceal gastrointestinal hemorrhage," Gastroenterology Clinics of North America, vol. 34, no. 4, pp. 735–752, 2005.
12. S. F. Kerr and S. Puppala, "Acute gastrointestinal haemorrhage: the role of the radiologist," Postgraduate Medical Journal, vol. 87, no. 1027, pp. 362–368, 2011.

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Role of Ureteroscoy and Retrograde Studies of the Ureter in Diagnosis and Treatment of Ureteric Pathology

By Wiaam. N. Abdalla & Abdelrouf Sharfi
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Abstract- Ureteroscopy is defined as upper urinary tract endoscopy performed most commonly with an endoscope passed through the urethra, bladder, and then directly into the upper urinary tract. Indications for ureteroscopy have broadened from diagnostic endoscopy to various minimally invasive therapies. Objectives: To evaluate the effectiveness of Ureteroscopy and retrograde studies in diagnosis and treatment different ureteric pathology.

Materials and Methods: This is a prospective cross sectional hospital based study conducted in Khartoum Sudan, in IbnSina hospital, Omdurman Military base hospital ISH, OMBH and SUH in the period between Oct 2012-Sep 2012. It included all patients who underwent Ureteroscopy and retrograde studies

Results: Most patients were males in the ages between 31-40 yrs old, Loin pain was the most common presenting symptom in 116(91.3%).

Keywords: ureteroscopy, retrograde studies lithotriptor, dj stent.

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Strictly as per the compliance and regulations of:

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Results: Most patients were males in the ages between 31-40 yrs old, Loin pain was the most common presenting symptom in 116(91.3%). The diagnosis was made initially using imaging using U/S, IVU, CT KUB The main indication for ureteroscopy in this study was Ureteric stone (78.7%), These imaging findings when compared to ureteroscopy results showed a discrepancy in diagnosis. Disintegration of stones done in 60 pts (74.2%) and stone extraction was performed in 26 pts (33%) Post ureteroscopy DJ stenting was performed for all patients who underwent ureteroscopy , (20%) of patients had post-operative complications.

Conclusion: In this study it is our opinion that Ureteroscopy and retrograde studies is an effective and safe interventional and diagnostic modality for different ureteal pathology.

Keywords: ureteroscopy, retrograde studies lithotriptor, DJ stent.

I. Introduction

For centuries, endourology has been on the forefront of minimally invasive procedures, with Philipp Bozzini (1773-1809), a young German army surgeon who developed a sharkskin-covered instrument housing a candle within a metal chimney and a mirror on the inside that reflected light from the candle. Bozzini used this instrument to look into the urethra, among other orifices. (1) This was the early 18th century ancestor of what would be the modern cystoscope. Since that time, endourology has rapidly expanded its role in the treatment of urological disease to the point of limiting the use of certain open procedures, such as anatrophic nephrolithotomy, to only the extremely difficult cases. Ureteroscopy (URS) is defined as retrograde instrumentation performed with an endoscope passed through the lower urinary tract directly into the ureter and calyceal system (2). Although it was first described in 1912(3), it was not routinely performed until the late 1970s. However, ureteroscopy has gradually become a major technique for the diagnosis and treatment of lesions of both the ureter and intrarenal collecting system(4).The major therapeutic indications of ureteroscopy include urolithiasis, Ureteric strictures, pelviuretericjunction (PUJ) obstruction, and ablation of transitional cell carcinoma and retrieval of migrated stones(5). There are several types of lithotripter energy sources. These include electrohydraulic, mechanical, electromechanical, ultrasonic and laser energy sources. The miniaturization of ureteroscopes and introduction of the holmium (Ho: YAG) laser has improved stone free rates (6). Several authors showed ureteral strictures can be treated by dilatation or endoscopic incision through a retrograde, antegrade or combined approach using rigid and/or flexible ureteroscopes. Ureterscopy and retrograde study can also be used as a diagnostic procedure. It can be used in the evaluation of ureteric transitional call carcinoma, filling defects and undiagnosed haematuria. Beginning the 1980s endourological approaches have been used to treat localized transitional cell carcinoma of the upper urinary tract in patients with contraindication to nephroureterectomy(7) .

Ureteronoscopy performed to evaluate an upper urinary tract (UUT) filling defect greatly enhance diagnostic accuracy. In addition to visualizing UUT, it offers opportunity to biopsy any lesion encountered, allowing histopathological confirmation(8).With widespread practice however, have come various incidents or complications and new solutions for prevention(4). Complications of Ureteroscopy can range from minor complications such as colic, fever, haematuria to major complications like ureteric perforation and avulsion (9).

According to several reports with growing experience and better equipment, however, the safety of the procedure has increased (4). Supporters of URS as

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the primary treatment for distal calculi claim that it is highly successful and minimally invasive in trained hands and has minimal morbidity(9). Advances in instrument design, flexibility and reduced size have also reduced the rate of complications.

II. Objectives

General Objective: 1-To evaluate the effectiveness of URS and retrograde studies in diagnosis different ureteric pathology.2-To evaluate the role of URS in the treatment of different ureteric pathology.

Specific Objectives: 1. To evaluate the most common ureteric pathology as detected by URS and retrograde studies. 2. To compare the accuracy of diagnosis ureteric pathology by URS and retrograde studies with other methods (U/S, I. V. U, CTUandCT- KUB).3. To evaluate different procedures used in treatment of different ureteric pathology.4. To evaluate complications which are associated with URS.

III. Material and Methods

This is a a descriptive prospective cross-sectional hospital based study conducted in IbnSina hospital and Omdurman Military base hospital in the period between Oct 2013-sep 2014. All patients who underwent ureteroscopy and retrograde studies in IbnSina hospital and Omdurman Military base hospital were enrolled in this study.

Inclusion Criteria: All patients underwent URS and retrograde studies.

Exclusion Criteria: All patients underwent URS and retrograde studies who refusing to participate in this study.

Data analysis: The questionnaire was design in a way that facilitates for computer based analysis of data. The data was entered into the computer and analyzed using the SPSS program.

IV. Result

In this study the majority of patients were males (70.1%) females represented (29.9%). When comparing these results to other regional studies the percentage of males in this study is much higher for e.g. an Ethiopian study showed males representing 56% and females were 44% (10), another study from Oman reported males representing 58.6% and females 43%(11). Males and females in Sudan have major differences in occupation the majority of males are farmers and unskilled labors with the weather and work environment predisposing them to dehydration, UTI and stone formation.

The commonest age group in the presenting patients was between 31-40 yrs (21.3%), followed by 21-30 yrs (19.7%)(figure 1). These results correlate with the study from Oman where the commonest age group was 30-41 yrs (11) This observation can be explained by the fact that the main indication for ureteroscopy in this study was ureteric stone in (48.7%).

The most common presenting symptom was loin pain (91.3%), This is not surprising as the major pathologies in the ureter in this study are obstructive conditions that lead to intermittent ureteric contractions more colic and haematuria. In this study 20% of the patients presented with fever indicating the prevalence of infection among presenting patients which later reflects on their postoperative complications.

In these study the imaging findings when compared to ureteroscopy results showed a discrepancy in diagnosis (figure 2) Literature show diagnostic radiological studies by CT KUB as 100% accurate (12). But this was not the case in this study; and other regional studies for e.g the Ethiopian study (10) showed a great discrepancy between radiological and ureteroscopic diagnosis in (23.9%)of patients who had an indication for ureteroscopy had a normal URS, (64.3%)were radiologically found to have ureteric stones but URS found stones in only(45.3%), These finding show that ureteroscopy is an important diagnostic procedure independent of imaging. In this study the most common therapeutic procedure done was disintegration of stones in 60 pts (74.2%), Stone extraction was performed in 26 pts (33%0, of these (60%) were performed in the age group 1-10yrs. These results may be due to anatomical differences between children and adults which facilitates stone extraction in children. Patients with strictures were managed by meatotomy and DJ stenting in 3 pts 24%, dilatation and DJ stenting in 4 pts 3.2%, the remaining patients were treated by stenting only. These results are comparable to a study from Oman which concluded that the role of balloon dilatation of PUJ is an accepted procedure which they performed in 3 cases (11) and all have done well symptomatically, endopyelomyotomy was done successfully in 2 pts. A study by Saint John Emergency clinical hospital(13) in which 230 pts were treated using cold knife incision and nd: YAGlaser; concluded that compared to the antegrade approach the retrograde approach has the advantage of being less invasive, avoiding possible renal complications.

Post ureteroscopy DJ stenting was performed for all patients who underwent ureteroscopy in this study, there is controversy regarding guidelines on the placement of stents following ureteroscopic procedures, some centres routinely employ stents since it reduces post operative pain which may arise due to ureteric meatal oedema as a result of ureteric meatal dilatation and reduces hospital stay and in another studyDJ catheters were fixed in 42 % of patients undergoing urethroscopy 14). However routine stenting is not necessary in all cases of ureteroscopy as the stent by itself can cause problems like dysuria, UTI, haematuria and migration which occured in five patients in this sudy.

The overall complication rate was 20%, postoperative haematuria was found in 4%, which is less compared to the Ethiopian study which was showed 8.3% (10). ureteal perforation (0.8%) which matched the Reported percentage of it was 1 (2.6%) patient in Hofbauer's series and in Peter's study, 1 (0.6%) acquired this complication Sepsis(15) is was the commonest complication in this study 9.8% it occurred mainly in the elderly age group, this percentage is very high compared to other studies which reported fever as a mild self-limiting post-operative complication(16), this high rates of sepsis can be explained by the high rates of patients presenting with fever 20.5%. All patients received preoperative prophylaxis in form of one dose of injectable antibiotic, those with preoperative fever should have been treated therapeutically with a full dose antibiotics which would have been a major factor in reducing the over all postoperative complications

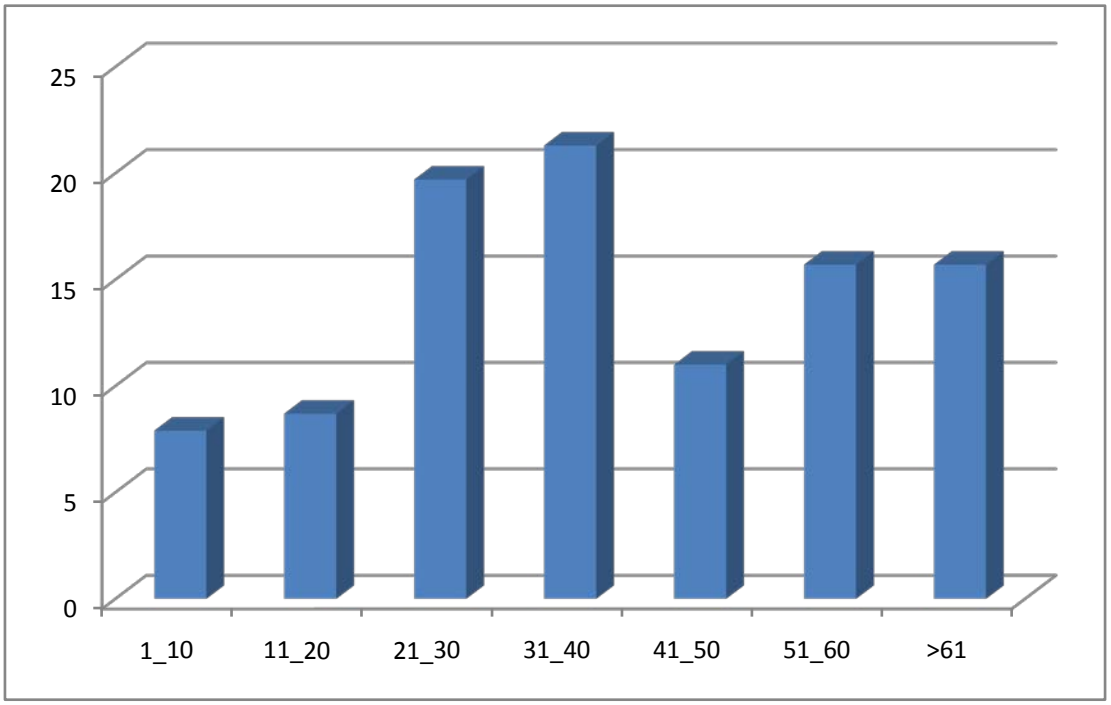

Figure 1 : The Age Distribution of in127 Patients

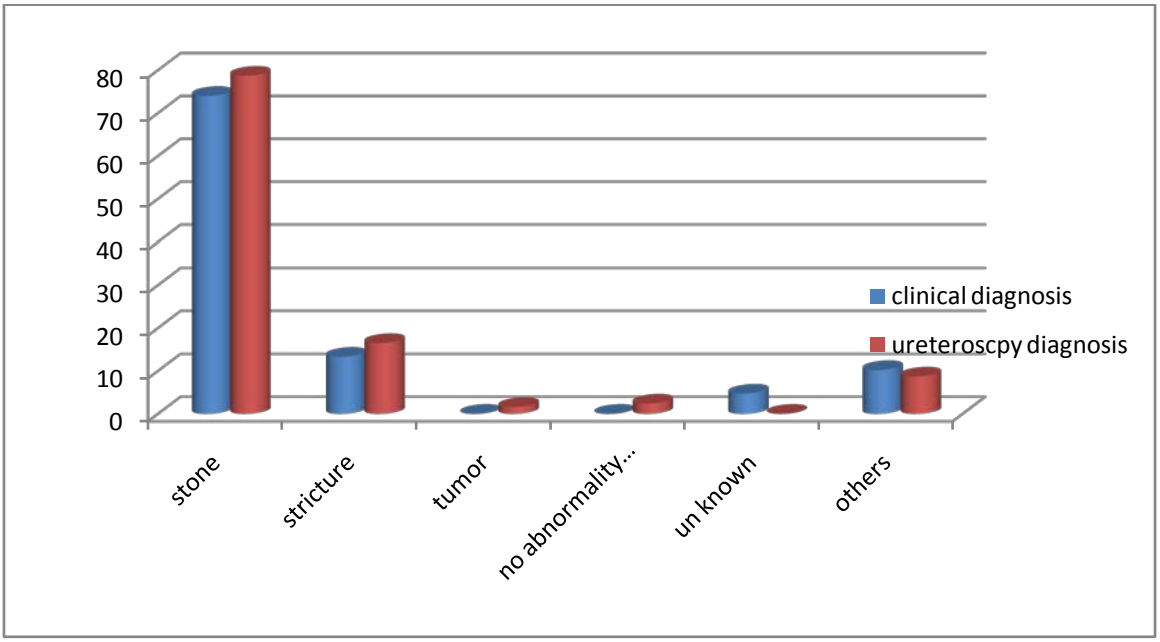

Figure 2 : Radiologically and Ureteroscopic Diagnosis of 127 Patients

V. Conclusion

In this study it is our opinion that Ureteroscopy andretrograde study is an effective and safe interventional and diagnostic modality for different ureteal pathology Uretaric stone is the most common pathology which diagnosed and treated successfully either by extraction or disintegration.DJ STENT was used after all URS done which proven to have its own complication.

References Références Referencias

1. Engel RM. Philipp Bozzini - the father of endoscopy. J Endourol. 2003; 17:859–62.
2. Rajamahanthy s., Grasso M., Flexible ureteroscopy update: Indications, instrumentation andtechnical advances, Indian Journal of Urology, 2008; 24; 532-537.
3. Gaevlete P., Complications of 2735 retrograde semirigidureteroscopy procedures: A single centerexperience, Journal of Endourology, 2006, 20:179-18.
4. Knoll T., Progress in management of Ureteric stones, EAU update series, 2005, 3:44-50.
5. Mugiya S., Retrograde endoscopic laser therapy for transitional cell carcinoma of the upper urinarytract, International journal of urology, 2003, 10:371-376.
6. Matsumoto A., The usefulness of ureterorenoscopic examination in evaluation of upper tract disease, International journal of urology, 2006, 13:509-514.
7. Singal R., Secondary ureteroscopy: Results and management strategy at referral center, Thejournalof urology, 1998, 159:52-55.
8. Watson J., Same session bilateral ureteroscopy is safe and efficacious,The journal of urology, 2011,185: 170-174.
9. Turk T., A complication of ureteroscopy to in situ extracorporeal shockwave lithotripsy for treatmentof ureteral calculi, The journal of urology, 1999, 161:45-47.
10. D. Andualem, L. Be-ede, T. Mulat, L. Samod .Ureteroscopy in a Resource Limited Setting: The Tikur Anbessa General Specialized Hospital Experience in Addis Ababa, Ethiopia.i. East and Central African Journal of Surgery. Nov 2 0 1 2; 1 7 (3).
11. Logesan Dhinakar. A Retrospective Study of Ureteroscopy Performed at the Sultan Qaboos Hospital, Salalah from August 2001 –August 2006 .Oman Med J. 2007 October; 22(3): 24–32.
12. Sheafor D.H., Hertzberg B.S., Freed K.S., et al: Nonenhanced helical CT and US in the emergency evaluation of patients with renal colic: prospective comparison. Radiology 217. (3): 792-797.2000.
13. P. Geavlete, Dr. M. Jecu, Dr. B. Geavlete, Dr. R. Multescu. Ureteroscopy – an essential modern approach in upper urinary tract diagnosis and treatment J Med Life. 2010 May 15; 3(2): 193–199.
14. Serraw pascual A, Fernandez fernandez. E, Burgos Reivilo FT Arch Esp Urol. 2002; 55(4):405-21.
15. Djaladat H, TajikP, Payandemehr P, Ureteral catheterization in uncomplicated ureterlithotomy, A randomized controlled trail Eur Urol.2007;52:836-91.
16. Pnicope C,Dor bat C,PuiaD. Antibiotics prophylaxes in ureteroscope: what strategy should adopt? Germs 2011; 3(9):115-21.

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Experience of Transfistula (TFARP) Repair for Congenital Recto-Vestibular Fistula

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Abstract- *Background:* The objective of this study is to assess the feasibility of aprimary transfistula anorectoplasty (TFARP) in congenital recto-vestibular fistula without a covering colostomy in the north of Iraq.

Patients and Methods: Female patients having imperforate anus with congenital rectovestibular fistula presenting to pediatric surgical centres in the north of Iraq (Mosul & Erbil) between 1995 to 2011 were reviewed in a nonrandomized manner, after excluding those with pouch colon, rectovaginal fistula and patients with colostomy. All cases underwent one stage primary (TFARP) anorectoplasty at age between 1-30 months, after on table rectal irrigation with normal saline & povidoneIodine. They were kept nil by mouth until 24 hours postoperatively. Postoperative regular anal dilatation were commenced after 2 weeks of operation when needed. The results were evaluated for need of bowel preparation, duration of surgery,, cosmetic appearance, commencement of feed and hospital stay,postoperative results. Patients were also followed up for assessment of continence and anal dilatation.

Keywords: *anorectal malformation, vestibular fistula, primary transfistula anorectoplasty.*

GJMR-I Classification: *NLMC Code: WV 255, WJ 500*

Strictly as per the compliance and regulations of:

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Results: A total of 73 patients with an age range of 1-30 months (median, 15.5months) were studied after excluding one with pouch colon and another with rectovaginal fistula. Operative time ranged from 60 to 80 min (median, 70 min). Bowel preparation was not done before operation. Oral feeding was started after 24h in all patients and average duration of hospital stay was 3 days. Parents of 8 cases (10.9%) were related, however in spite of that, a positive family history was found in only one case (1.3%). Follow-up ranged from (1 - 14) years (median, 7.5 years). There were 2 wound infections. Wound dehiscence was noted in one case (1.4%); no recurrence of fistula was noted. At 3 months postoperative, most patients had 1 - 3 stools per day with no episodes of soiling. Twelve (16.4%) patients had grade I-II constipation and 3 cases (4%) had partial anal mucosal prolapse.

Conclusions: One–stage Primary Tranfistula anorectoplasty in imperforate anus with rectovestibular fistula can be effectively performed with good cosmetic appearance and functional result.

Keywords: anorectal malformation, vestibular fistula, primary transfistula anorectoplasty.

I. Introduction

It is reported that the majority of girls with imperforate anus will have a lesion of the low variety with a fistula to the perineum, fourchette or vestibule .Imperforate anus occurs in one of 5000 live births (1). According to the international classification of anorectal malformations, anteriorly placed anus includes anovestibular fistula, anoperineal fistula (low anomalies) and rectovestibular fistula (intermediate anomaly). According to Pena's classification, these low anomalies are classified into perineal and vestibular fistula. Pena did not distinguish between rectovestibular and anovestibular fistula (2).

The close proximity of the ectopic anus with the vulva and the stenosed opening seen in large majority of cases necessitates some form of surgical correction. The anovestibular fistula is too far forward and too close to the vagina for a cut back operation (4). Avariety of surgical procedures like posterior anal transposition, Mollard`s operation, anterior or posterior sagittal anorectoplasty with or without a diverting colostomy have been done (5). Sigalet et al used a simplified Mollard's approach (PSARP) for repair of anorectal malformations which avoids skin flaps and constructs a shorter, more normal anal canal through a perineal approach via an anterior sagittal incision, but it was usually combined with a transverse suprapubic laparatomy (1). Dr. Willis Potts described Anal Transposition for vestibular fistula,

Single stage repair for anorectal malformations has been advocated by a few studies with good results and concluded that single stage repair in neonates is safe with minimal complications (2,3,4).

We report our experience with 73girls with vestibular anus including results of long term follow up, hospital stay with regard to quality of continence and cosmetic appearance.

II. Patients and Methods

Seventy six female patients having congenital imperforate anus and anorectovestibular fistula presenting to our (Mosul + Erbil) pediatric surgical center were included in the study, in a nonrandomized manner. Between (Jan 1995 to September 2011). All cases were done by one consultant surgeon. Mosul & Erbil are two cities of five millions populations sum in north of iraq. All cases had a well formed perineum & gluteal region. A contrast enema was performed in the presence of constipation or straining at stools despite an adequate size opening, to rule out pouch colon. Three patients, one baby with pouch colon and another with Rectovaginal fistula were excluded from the study in addition patient with colostomy. All 73 patients

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underwent ultrasonography of kidneys, ureters, and bladder as outpatients. An echocardiography was also performed where indicated. All patients were screened by sacral x-rays for presacral mass and sacral ratios. In addition checking was done for associated spinal cord anomalies. Patients were admitted a day before operation when samples for hemogram (Full Blood Count), serum electrolytes, and blood urea/serum creatinine estimation were taken. The child was allowed clear fluids by mouth until 4 hours before the surgery. A foley's catheter was placed through the urethra under G/A. Rectal fistula was washed with 20-25 cc /kg warm normal saline + povidon Iodine in a concentration of 1:10 for 10min while the patient was anaesthetized before commencement of surgery (on table preparation). We usually use a nasogastric tube, fixed by approximating the gluteal region by adhesive plasters rather than using a ballooned catheter.Abroadspectrum antibiotic (Claforan /or Cefitriaxone) was given at commencement of G/A. All patients were operated on under general anesthesia using an TFARP (modified anorectoplasty) approach in the lithotomy position. Electrical stimulation & hyperpigmentation were used to locate the anal site, and an inverted U shaped skin incision was made at the anal site before fistula separation, then a plane was dissected between the muscle complex going anteriorly (fig1). Fine silk traction a round the fistula and freed after an elliptical transverse incision and sufficient length rectum was dissected and the vagina was separated using loop magnification (Fig.2). a clamp passed after making a tunnel through the anal sphincter and the released anorectum was pulled through to the proposed anal site (Fig. 3). The rectum was fixed to the muscle by multiple fine stitches (6/0 vicryl). The fistulous region was excised and a proper anoplasty was done, and the site of the primary fistula was closed in layers after repairing the perineal body. Saline injection with adrenaline was used in all cases for dissection to minimize the blood loss. No blood was given during operation in all patients. Patients were evaluated for the duration of the operation, commencement of the oral feed, hospital stay and the postoperative results. Patients were kept nil by mouth for the following 24hours to delay bowel motion. They were kept on intravenous fluids and similar parenteral broad-spectrum antibiotics during this period. The urinary catheter was removed after 24hours postoperative. Mothers were adviced to keep the perineal area clean with diluted povidine iodine and normal saline. Anal dilitation was done after 2 weeks of operation when required. All patients were regularly followed up, twice in a month for the first 3 months; monthly for the next 6 months; every 3 monthly for the next year; and then yearly. They were followed for a minimum period of at least three years. The perineal area was inspected for any excoriation, wound infection, wound dehiscence as well as anal stenosis, retraction, mucosal prolapse or recurrence of fistula. They were assessed for constipation and voluntary bowel movements.

Fig. 1 : Rec-Vestibular Fistula .Preoperative.

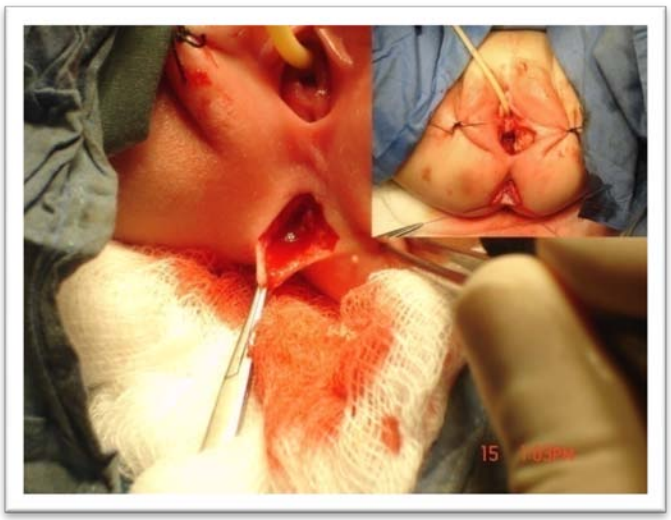

Fig. 2 : Rec-Vestibular After Mobilization –TFARP

Fig. 3 : Pull Through Of The Rectum.

III. Results

A total of seventy three patients were included in this study after excluding two patients. Mean age of presentation was 45 days (range, 1-90 days). Sixty patients were term & 13 were preterm. Fifteen of them were delivered by C/S while the remaining had a normal vaginal delivery. Fifty percent of mothers were in the age range 25-29 years and 50% of them were between para 2-4. Although 40% of parents were related, family history was positive in only 1case (1.3%). Early diagnosis was done for all cases in the neonatal period, except for 3 patients who were 3months old at diagnosis. All patients had RVF malformation with the distance of vagina from anus between 2-5 mm. Forty eight cases (65.7%) were free of associated anomalies, 25 cases (34.2%) had associated anomalies, 14(19.1%) of them had more than one associated anomaly. Seven (9.5%) had Congenital Heart Disease (4 VSD, 2 ASD, 1TOF), 11(15%) had associated renal anomalies (5 VUR, 2 Rt Renal agenesis, 1Horse shoe kidney, 1Rt single kidney, 2 unilateral pelvic kidney,), 1 (1.3%) with 1st branchial fistula, 3 (4.1%) with polydactyly, and three (4.1%) were associated with Down's syndrome (Table 1). 48(65.7%)patients were operated on between 1-3months, while others were done later either because ofassociated anomalies or their parents had refused early surgery, (Table2)Median age of operation was 7months.

No antibiotics used preoperatively, only prophylactic on table AB"Claforan". All patients were fasting apart from clear fluids 4-6 hours preoperatively. 12 cases had stenosis preoperatively and underwent preoperative dilation. Bleeding during surgery was minimal by the application of diluted adrenaline. Two cases had mild injury to the posterior vaginal wall, all were sutured immediately. Oral feeding was started 24 h after surgery. Patients were passing stool 4-6 times per day after operation. Range hospital stay was 2–4 days. At follow-up, patients were healthy and passed stool 2-3 times a day. All patients started to pass bowel motions 2-4 days postoperatively. Five patients had anal stenosis. Minimal constipation was observed in 18(24.6%) patients and was managed by regular dilatation and laxatives. Superficial wound infection was seen in 5 patients(6.84%), of which, healed by local dressing, toilet and antibiotics, whereas in 2 cases(2.73%) disruption & dehiscence of the wound developed ,one of them was on aspirin after cardiac surgery. Fortunately the sphincter was intact, & secondary suturing was done for them after toileting without a protective colostomy (Table 3). Three patients were seen to have mild mucosal prolapse, managed by excision later on. Follow up was between one to fourteen years with median period of 7years.

Table 1 : Age at Operation in the Study Group

Age at operation in months	No. of patients	%
1-3	48	65.75%
4-6	17	23.2
7	5	6.8
14	2	2.7
30	1	1.3
Total	73	100

Table 2 : Associated Anomalies in the Study Group

Associated anomalies	No. of patients	%
Urogenital	11	15
Cardiovascular	7	6.8
Skeletal	3	4.1
1st branchial cleft	1	1
Down's syndrome	3	4
Total no. of patients having anomalies.	25	34.2

Table 3 : Demonstrating Postoperative Results, Complications & Follow-Up in the Study Group

Anal stenosis	5cases
Constipation(G I-II)	12 cases
Mucosal prolapsed	3cases
Frequency of stool/day in follow-up	2-4 times
Wound infection	3cases
Wound dehiscence	2case
Mean Follow-up	7years

IV. Discussion

This study was conducted in single center (Erbil) from two cities in north of Iraq for 15 years from (1995 to 2011). It may reflect the high incidence of anorectal anomalies of recto vestibular and anovestibular fistulas among female in regard to recto-vaginal and cloaca .In this study the rectovestibular were more common in number (n=58) 79.45% than anovestibular(n=15) 20.54%. which is similar to the study of pena (1)and J shaheed (2).

In our study age distribution was between one and thirty months ,among them 48 cases(65.75%) between 0-3month ,17(23.2%) between 4-6 months, 5(6.8%)at 7months,2 (2.7%)at 14months ,1 (1.3%) at 30 month. This high number of early presentation in the first three months most likely due to absence of normal anal opening or difficulty in passing motion or early detection of the anomaly at maternity hospital which is seen similar to J shaheed (2) and Okada(3) and Akshay etal (4).

Associated congenital anomalies were seen in 25cases (34.24%) of our study,including congenital heart disease, renal anomalies, polydactyly, down

syndrome and branchial cleft fistula. While it was different in study by pena (5). and JS kamal (6).

From the experience of Menon et al., the ideal time for primary Anorectoplasty appears to be the age of 3 months because the baby is still on milk feeds at 3 months, stools are soft, and usually there are no problems with defecation. The risks of anesthesia are reduced at 3 months as compared with the newborn period. There is also enough time to fully assess other anomalies, especially cardiac and renal complications (7) .In our study most cases 48(65.75%) were between 1-3 months age and they were (88.95%) in the first1- 6 months of age. compairing with J shaheed they were 58% in first month and 83.7% below six months which are nearly the same, while they were 45% in the same age in Saber M. Waheeb (8).

Regarding bowel preparation in our study we found that peroperative bowel irrigation with povidine iodine and normal saline under G/A was easy and safe, no soiling during surgery, there were reduced number of wound sepsis, and admission period. We have seen 5 patients with superficial wound infection (6.84%). 2 wound disruption (2.73%). while it was 2 cases (10%) wound infection and 1(5%) wound disruption in J Shaheed Suhrawardy (2) ,and all vestibular anus healed completely with no infection (100%)in Akshay etal (4).

The transfistula anal transposition preserves an intact perineal skin bridge which eliminates the risk of wound problems; also the levator muscle is identified but not divided. (shi Sh.9) We believe that in TFARP normal skin bridge between the neo-anus and the repaired site of the fistula limits the risk of wound dehiscence ,as we have only 2(2.73%) cases of wound disruption one of them was on aspirin (cardiac surgery),and also a better cosmotic result due to lack of an incision and scar. The rectum can be dissected easily, placed properly within the muscle complex (2).

The perineal body and posterior fourchett are closed precisely from within out wards (9). TFARP is considered more acceptable with regards to surgical outcome and aesthetic appearance of perineum as there is no visible scar mark in the perineum and strength of perineum is good as there is no interference of pelvic diaphragm and Reconstruction of perineal body with apposition vestibular and perineal wound was performed (9).

Regarding posterior vaginal injury, In our series 2(2.73%) patients out of 73 had posterior vaginal wall injury during dissection which were repaired immediately by 6/0 vicryl without postoperative complication. while in Jshaheed series there were 4(20%) vaginal wall injury (2). and it was only one case in Akshay etal (4).

operation time was between 45minutes and maximum time was75minutes,mean operation time (60min).while the mean time was (76.5min) in J shaheed (2). and was (68min) in upadhyaya (10). Pratap A etal reported mean operating time 85 min (11).

Mean hospital stay in our series was 3days while in J shaheed was 6.95days, and it was 4.4days in upadhyaya (10). Akshay et al was found 5 days mean hospital stay. Pratap Aetal mean hospital stay was 5 days (11).

Commencement of oral fluid feeding was started 24h postoperative in our series, which is the same as in upadhyaya (10).

At the time of discharge all parents were told to report for planned time of follow up and anal dilatation if needed after 2weeks .we reported 5 cases(6.84%) of anal stenosis which were put on schedule of dilatation first at hospital then at home by their parents according to pena dilatation schedule. while upadhyaya series were 2cases(5%) with anal stenosis which needed dilatation ,nearly similar to our series(10). While J shaheed reported all patients were put on anal dilatation schedule.2. Pratap aetal reported moderate anal stenosis developed in 1 patient and was treated successfully by anal dilatations using Hegar dilators [(11)].

Follow up was between one to fourteen years with median period of 7years. Upadhyaya median followup was 3y (10), while Menos follow up was between 7m-8y (6). Functional out come were evaluated. Minimal constipation (G1-2) was observed in 12(16.4%) patients and was managed by laxatives, Upadhyaya reported 6 cases (15%) with constipation (10). Ibrahim etal reported 3(12%) cases of constipation (12). Henien reported post operative functional constipation in 47% of patients with anteriorly placed anus and 50% in cases of vestibular fistula (13). Yeung and Kiely reported intractable constipation in 28% of their patients (14).

The need for a diverting colostomy in babies with vestibular fistula is debatable. Pena recommended a colostomy in all babies with vestibular fistula, because it is a defect that has a good functional prognosis and perineal wound complications after PSARP would compromise the outcome. The diverting colostomy also prevents dilatation of the rectum occurring prior to the definitive procedure. A dilated rectal pouch might affect the functional outcome after anorectoplasty (15). In all of our cases no colostomy was done, J Shahees (2) and upadhyaya (10) also had reported no colostomy in their series.Besides the disadvantages of the three stages procedure and the costs involved, repeated hospital admissions, colostomy in anorectal anomalies is associated with frequent and sometimes severe complications (patwardhan) (16).

V. Conclusions

Primary Tranfistula anorectoplasty in imperforate anus with rectovestibular fistula can be

effectively performed without a covering colostomy with good cosmetic appearance and good anal continance, less morbidity, provided fecal contamination of the wound can be kept to the minimum in the first postoperative week.

References Références Referencias

1. Pena A. Anorectal anomalies'in Newborn surgery, 2nd edn, ed.p. Puri, Arnold, London, 2003; 535-552.
2. J shaheed suhrawardy. Transfistula Anorectoplasty (TFARP): Better Surgical Technique for the Management of Vestibular Fistula.Med M edcoll vol.4 No.1, June 2012.
3. Okada A, Shinkichi K, Imura K, Fukuzawa M, Kubota A, Yagi M, Azuma T, Tsuji, H. Anterior Saittal Anorectoplasty for Rectovestibular and Anovestibular fistula, J Pediatr Surg, 1992:27(1): 85-88.
4. Akshay P, Yadav RP, Shekhar VC, Singh A, Sen R. One stage correction of Rectovestibular fistula by transfistula anorectoplasty. J, World surg vol. 2007; 31(9):1-3.
5. Pena A, Levitt MA. Anorectal Malformations In: Grosfield JL, O'Neil JA, Fonkalsrud EW, Coran AG, editors. Pediatric Surgery. 6 th ed. Philadelphia: Mosby Elsevier; 2006. p. 1566-89.
6. JS Kamal. Anal transposition (trans-sphincteric ano-rectoplasty) for recto-vestibular fistula- Saudi Journal for Health Sciences, 2012 - saudijhealthsci.org.
7. Menon P. et al., Primary anorectoplasty in females with common Anorectal malformations without colostomy. Journal of Pediatric Surgery (2007) 42, 1103– 1106.
8. The Anterior Sagittal Anorectoplasty Technique (ASARP) for Treatment of Recto-Vestibular Fistulae and Vestibular Anus in children and Neonates Saber M. Waheeb. Annals of Pediatric Surgery, Vol 1, No 1, October 2005: 54-58.
9. Shi SD: Perineal skin bridge and levator muscle preservation in neutral sagittal anorectoplasty (NSARP) for vestibular fistula. Peditr Surg Int. 21:711-714, 2005.
10. VD Upadhyaya, AN Gangopadhyay, A Pandey… -. Single-stage repair for rectovestibular fistula without opening the fourchette. Journal of pediatric …, 2008 – Elsevier.
11. Pratap A, Yadav RP, Shakya VC, Agrawal CS, Singh SN, Sen R. One-stage correction of recto-vestibular fistula by trans-fistula anorectoplasty (TFARP). World J Surg. 2007 Sep; 31 (9):1894-7.
12. Ibrahim Ali Ibrahim, Mohamd Korany, Samir A Ammar One Stage Posterior Anal Transposition for low and Intermediate Aanorectal Anomalies in Females, Annals of Pediatric Surgery, Vol3, No 2, April 2007 PP 92-96.
13. Heinen FL: The surgical treatment of low anal defects and vestibular fistulas. Semin Pediatr Surg. 6:204-216, 1997.
14. Yeung CK, Kiely EM: Low anorectal anomalies:a critical appraisa. Pediatr Surg Int. 6:333-335, 1991.
15. Pena and Hong: Advances in the management of ano-rectal malformations. Am J Surg. 180:370-376, 2000.
16. Patwardhan, Kiely EM, Drake DP, et al: Colostomy for anorecal anomalies:high incidence of complications. J Pediatr Surg. 36:795-798, 2001.

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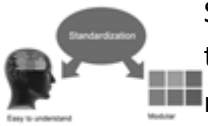

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TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

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5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

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11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

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15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

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19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
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- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
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- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

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The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
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- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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