Journal of Zankoy Sulaimani, (JZS) ,2000,Vol.3 (59-72)

The Pattern of Acute Abdomen In Sulaimany Teaching Hospital

Faruk H.Faraj.M.B.Ch.B, D.S, CABS ,FRCS
Consultant Surgeon
Sulaimany Teaching Hospital.
Senior Lecturer in general Surgery
Head of Departments of Anatomy and Higher-Education
College of Medicine. Sulaimany University
Sulaimany.Kurdistan Region.Iraq

ABSTRACT

A total of 520 patients entered this study. The most common cause of acute abdomen was acute appendicitis (33.46%) followed by urological causes (27.88%), non-specific abdominal pain (NSAP) (11.34%) and biliary diseases (8.84%). Male :female ratio was 48:52 in the whole study population , but there were differences in the age and sex distribution when studied by diagnosis.

Acute appendicitis was more frequently found in young men , NSAP was mainly presented in young women and biliary disease was most common in adult and elderly women. A male predominance was noted in cases of renal stones, and peptic ulcer.

47.6 % of patients were operated on and surgery was most common for patients at 2^{nd}-3^{rd} decades of life for appendectomy and at 4^{th}-6^{th} decades of life for D.U and biliary surgery. Altogether 5% of patients were discharged without hospitalization.

Six patients (1.1%) died of various causes , the most common of which was intestinal obstruction(3 patients).

INTRODUCTION

It is well known that a patient with acute abdominal pain is the principal clinical emergency which is encountered in A&E department(1). An immediate , accurate diagnosis made on the presenting clinical features is fundamental and any delay may harm the patient. Although several studies had been done on the subject elsewhere, but none in our locality. In the present study we revised the pattern of acute abdomen in this area and to find out the characteristics of our patients with non-traumatic abdominal pain admitted to STH. ,and to find out the morbidity and mortality rates of the cases and how to improve the accuracy of clinical diagnosis and decrease the hospital stay and costs and resources for acute abdomen. STH serves over 1.5 million population.

Sulaimany is a center of a big city in the mountainous part of the eastern-north of Iraq. The aim of this retrospective study was to elucidate the pattern and characteristics of patients with non-traumatic acute abdomen admitted to accident and emergency department of Sulaimany Teaching Hospital (STH).

PATIENTS AND METHODS

This is a retrospective study of 520 patients complaining of non-traumatic acute abdomen over the period of fifteen months from the 1st Jan.1993 to 31 March 1994 admitted to A & E department of STH, with 24 beds, for the 1st 24 hours. Then transferring them to the 7th surgical unit , which has general surgical beds. The surgical unit has one in six commitment to admit all surgical emergencies arising within Sulaimany territory during a 24 hours period including trauma and urological cases.

Data was collected regarding age ,sex , clinical diagnosis, duration of hospital stay, preoperative resuscitation and investigations including; urinalysis, WBC, chest-X-R , plain X-R of abdomen and ultrasound examination wherever indicated.

The operated cases were checked for the accuracy of provisional, preoperative clinical diagnosis .The postoperative morbidity and mortality were revised whenever available. The pediatric and geriatric groups were analyzed too .

RESULTS

PATIENTS CHARACTERISTICS

Of 520 patients 250 were male (48%) and 270 were female (52%) with male to female ratio of 1:1.08

The age range was from 4 months to 88 years. There were differences in the age and sex distributions when studied by diagnosis.

Fig.1 shows the clinical diagnosis in both genders

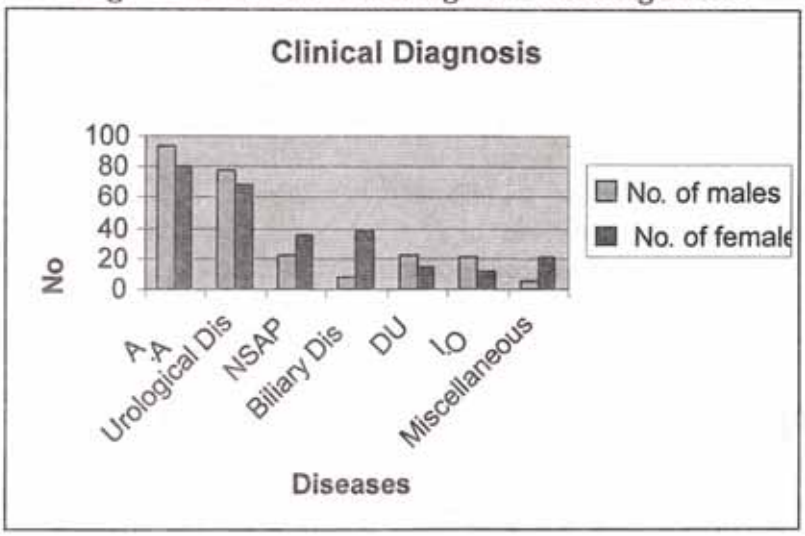

Fig.2 shows the age and sex distribution of A.A (Acute appendicitis)

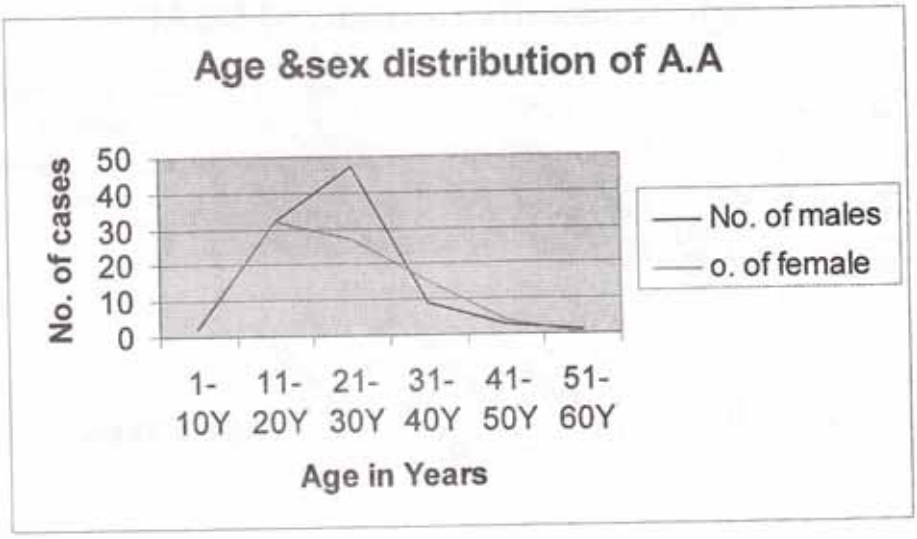

Fig.3 shows the age distribution of urological cases.

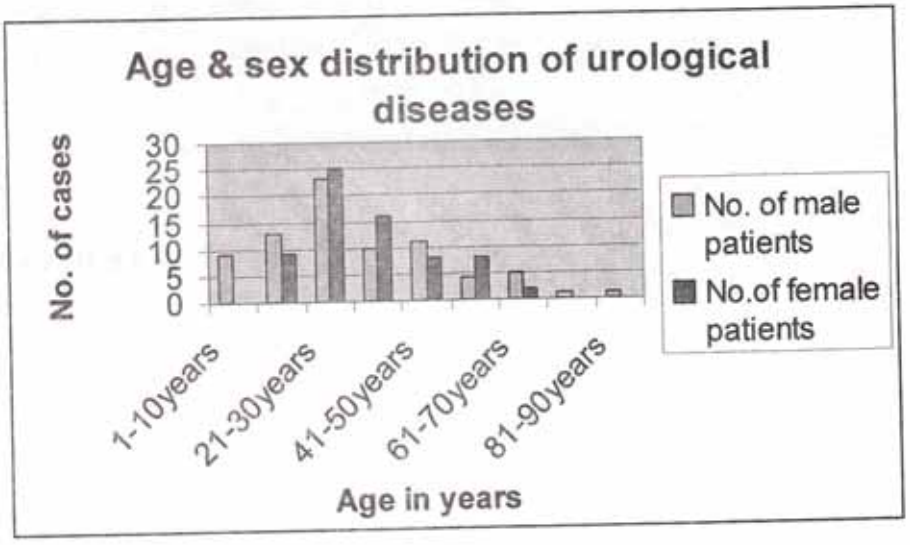

Fig.4 Shows ages & sex distribution Of NSAP

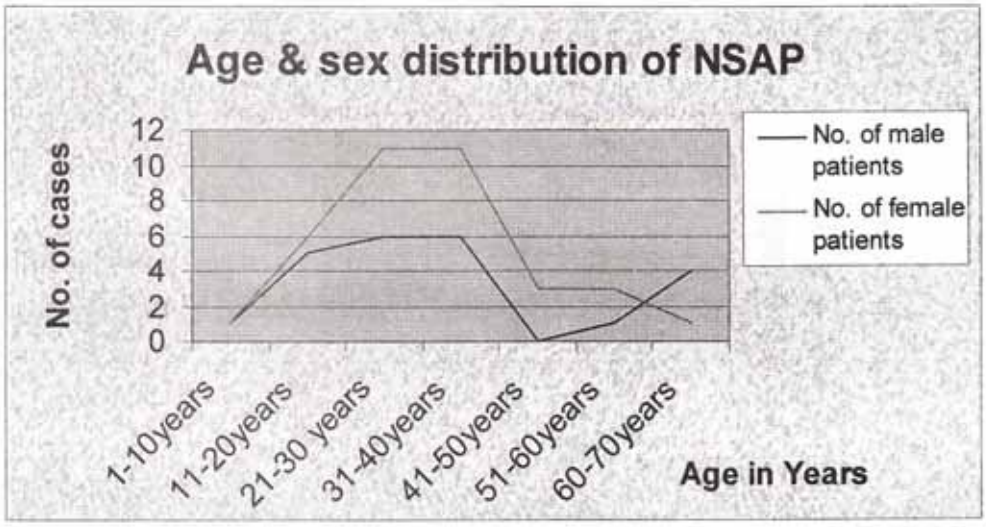

Fig.5 shows the age & sex distribution of D.U .

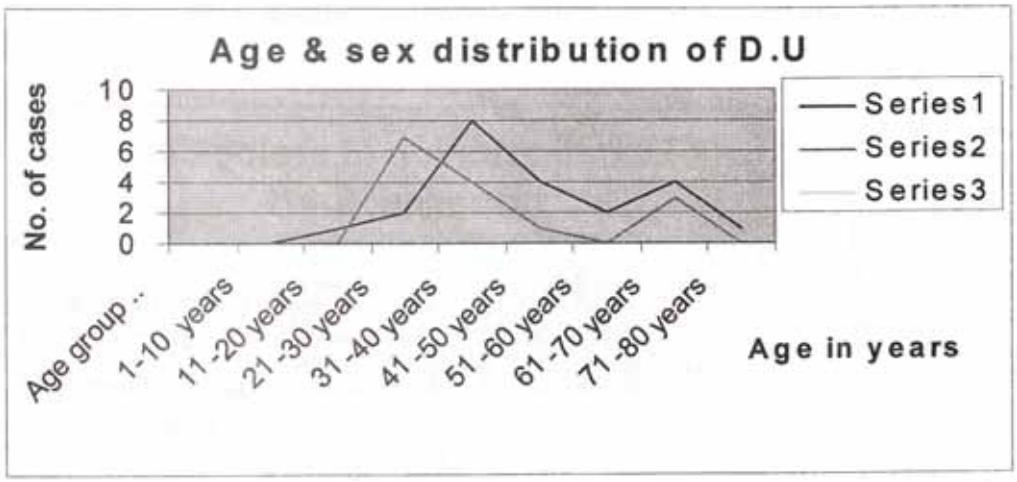

Fig.6 shows the age & sex distribution of Intestinal obstruction

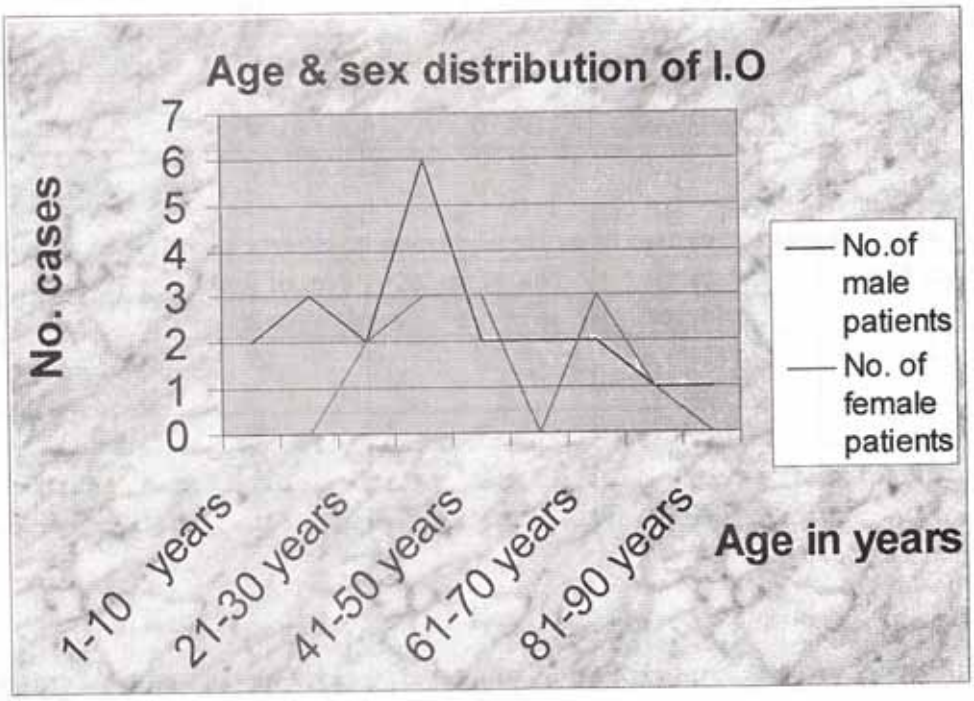

Fig.7 shows the age and sex distribution of Biliary diseases

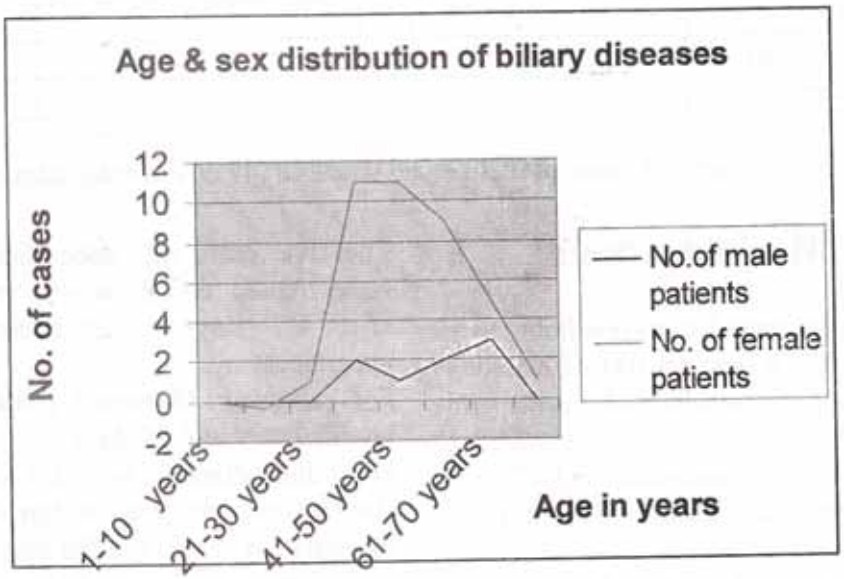

Table 1 shows the causes of acute abdomen in pediatric age group(up to 15 years)

Series No.	Diagnosis	No. of males	No. of females	% of the total
1	A.A	17	12	46
2	NSAP	6	7	20.6
3	Urological	6	4	15.8
4	Miscellaneous	7	4	17.4

Table 2 shows the causes of acute abdomen in elderly people(>65 years)

Series No.	Diagnosis	No. of males	No. of females	% of the total
1	Urological	7	2	25.7
2	Biliary diseases	3	6	25.7
3	I..O	4	3	20
4	D.U	4	2	17.14
5	Miscellaneous	2	2	11.4

Surgical operations

Table 3 shows the number and % of operated cases in each clinical entity.

Diagnosis	Total No. of cases	No. of operated cases	% of total operated cases
A.A	174	169	68.14
I.O	33	31	12.50
Biliary disease	46	21	8.46
D.U	37	13	5.24
Urological cases	145	7	2.82
Miscellaneous	26	7	2.28

The total number of operated cases in that period was 248 (47.6% of total admitted cases)

Duration of Hospitalization

The hospital stay varied from few hours to 10 days, with a mean hospital stay of 2.45 days and 52 cases (5%) discharged in the same day and the majority were belonged to NSAP, Gastritis , gasrtoenteritis or UTI.

For acute appendicitis:mean hospital stay was 1.2 days.

160 cases were discharged within the 1st 24 hours.

7 cases discharged after 48 hours, and 2 cases after3-4 days

The five cases with appendicular mass, who were treated conservatively were discharged after 4-7 days and scheduled for interval appendectomy.

For cases of I.O were 3-10 days, with mean hospital stay of 6.18 days.

For biliary diseases were 2-7 days . and after cholecystectomy was within 48 hours in the majority of cases, and the mean hospital stay for biliary cases were 3.39 days

For D.U, urological cases , NSAP and miscelleneous cases the mean hospital stay were subsequently ; 4.40, 2.57 , 1.38 and 3.46 days subsequently.

The accuracy of diagnosis

The accuracy of diagnosis of cases of acute appendicitis was revised, and it was found that the accuracy of diagnosis was 87.5% , i.e the incidence of unnecessary appendectomy in this study was12.5% and the error occurred mainly in children and women of a child-bearing age group.

Intestinal obstruction

Table 4 shows the causes of intestinal obstruction (I.O).

Cause of I.O	No. of cases	% of the total
Bands	17	51.5
Hernia	6	18.18
Tumours	6(1 small bowel+5 large bowel)	18.18
Volvulus	3	9
Intussusception	1	3

31 cases of I.O were operated upon. Only 2 cases were treated conservatively , one was an early postopertive ileus and the other one was a case of recurrent intestinal obstruction.

D.U

Table 5 shows the cases of D.U

Type	No. of males	No. of female	Total No.	operated cases	Notes
Exacerbated DU	13	13	26	2	Operated for intractable pain
Bleeding DU	4	2	6	6	4 recurrent. 2 severe
Perforated DU	5	0	5	5	Ages;30,32, 35,40&50Y.

Miscellaneous cases:

Table 6 shows the various other causes.

Disease	No. of cases	Operated cases	Remarks
Typhoid fever	9	1	Perforated terminal ileum
Dysentry(Amebic)	6	0	
Liver abscess	3	1	2 case of amebic liver abscess treated conservatively
Epigastric hernia	2	1	1 case treated conservatively, with ischemic heart disease.
Salpingitis	2	0	
Ca.pancreas	1	1	
Ca. Gall bladder	1	1	
Ectopic pregnancy	1	1	
Ca.stomach	1	1	

Type of surgery

Emergency operation : operation done within 2-4 hours after resuscitation. For 6 cases; 5 perforated DU and one ectopic pregnancy.
Urgent operation ; after 6 hours for 200 cases.169 AA and the rest for I.O.
Elective operation : 41 cases operated upon on scheduled lists for gall stones, urinary stones and for miscellaneous cases.

Morbidity

Table 7 shows the main post-operative complications and their percentages(%)

Complication	No. of cases	% of operated cases
Wound infection	25	10.08
Chest complications	15	6
Thrombophlebitis	12	4.8
Burst abdomen	2	0.8

Mortality

6 cases died giving mortality rate of (1.1%)

Table 8 shows the cause , No. & % of died cases

Cause	No. of died cases	% of died cases(Mortality rate)
Intestinal obstruction	3	50
GIT bleeding	1	16.6
Septic syndrome(multiple organ dysfunction syndrome) complicating gastric op. For Ca. Stomach	1	16.6
Pulmonary embolism	1	16.6

Discussion

It is well known that acute abdomen denotes a group of abdominal symptoms which rapidly deteriorate and consequently require urgent treatment, especially conditions associated with peritonitis, ileus or massive bleeding and in the majority of cases a simple clinical diagnosis gives sufficient indication for surgery (1)

In the whole our study, there was female predominance(male: female ratio =48:52) and this is similar to the Finnish University Hospital study(47 :53)(2), but there were differences in ages and sex distributions when studied by diagnosis.

Acute appendicitis was the most disgnosis,1/3rd (33.46%) of the cases , similar to that of University of Port harcourt Teaching Hospital (15) and the Korean study(3), while in other studies it was less common than NSAP: and accounted for 28%(4),23.3 %(2), 18%(5) and 14.9% (6)

Acute appendicitis was more common in male(54%) than female(46%), and was most common in the 2nd and 3rd decades of life with male predominance like elsewhere(2), while at King Edward VIII Hospital was twice as common in males as in females(7)

Urological causes were the 2nd most common (27.88%), while in other study (6) it was less common (12.8%), and was the 3rd common cause after NSAP and acute appendicitis . There were male predominance at both extremities of life and female predominance at the 3rd and 4th decades of life and that was mainly due to UTI in this age group.

NSAP was the 3rd common cause (11.34%) which was less than other studies: 34%(4),33%(2), 29.6%(8) and was more common in females and occurred mainly in the 2nd and 3rd decades of life, and also in patients over the 60 years of ages as in Finnish university Hospital(2).

In cases of peptic ulcer and intestinal obstruction , there were male predominance and were more common in the 3rd and 4th decades of life as in other study(2).There was female predominance in cases of biliary diseases , occurring mainly in young women in the 3rd and 4th decades of life like elsewhere(2).

In the pediatric age group; acute appendicitis was the most common cause of acute abdomen(46%), like results of German study (9),followed by NSAP(20.6%), which was opposite of other study at St.James'sUniversityH.NSAP30-50%, Acute append.30%(10)

In the elderly people, there was 20 males(57.15%) and 15 females(42.85%)., with male predominance, while in Finnish University. H. study (20) there was female predominance (104:120)(2), as the main cause in our study was due to urological diseases mainly related to prostatic diseases,

and followed by biliary diseases , but biliary surgery was the commonest operation (26%) like other study(2).

Peptic ulcer accounted for 7.1% of the cases which is twice that of UK studies(4%)(4).Hospital admission for patients with DU with or without complications have been steadily declining in the UK since 1957(11)the causes of this reduction remain unknown(12). Since 1977, when H2-receptor antagonist-Cimetidine became widely available , several centers in UK ,Europe and USA have reported further reduction in the incidence of elective operations for chronic peptic ulcer during the last two decades(13,14), while in the present study DU accounted for7.1% which is nearly twice that of other studies in UK & Scandinavia(4%)(4) and this is probably related to the extra-ordinary stressful conditions following the gulf-war and the subsequent difficult life –style of the people with all the blockades on the Iraqi-kurdistan.

47.6% of the patients were operated on which is more than other study(2) and appendectomy was the most common operation (68%) as elsewhere(2,3,15), followed by operations for patients with intestinal obstruction(12.9%) and biliary surgery (8.4%) of the whole operations.

In this study 5 % of the cases discharged without hospitalization and mainly had gastritis, gastroenteritis and UTI, which is less than other studyFinnish Univ.H 15% (2) and this is probably related to inavailability of some crucial investigation like U/S in the afternoon and some cases were from countrysides.

The accuracy of diagnosis for acute appendicitis was 87.5%(148 cases).

Table 9 shows the comparison of negative appendectomy in our study with those of other studies

	Our study	King EdwardVIII Hospital (7)	German Study(16)
Negative appendectomy	12.5%	8.8%	20%

In USA it ranges from 8-33%(17,18).If the accuracy of diagnosis is low, it meants some unnecessary operations are done. On the other hand, if the accuracy is more than 90% , it means some patients with early appendicitis or atypical appendicitis are being observed(17,18).

The unnecessary appendectomies were mainly in two groups of patients, one was in children 3.5%(6 cases, 5 cases had mesentric lymphadenitis and one cases was intuscusseption because of benign tumor of the terminal ileum.)The other group was women in the child-bearing age,8 cases (4.7%) with gynecological problems; salpingitis(3 cases),Mittelschmerz pain(2 cases), ruptured ovarian cyst(2 cases) and ruptured ectopic pregnancy (1 case).The accuracy of diagnosis can be improved by using formally structured patient interviews with or without computer-aided diagnostic program and the use of U/S and laparoscopy(19)

Intestinal obstruction accounted for 6.34% of all admitted cases which is higher than those of UK &Scandinavia, 4%(4), and the causes of it were adhesive bands (51.5%),then hernia(18.8) and GIT tumors(18.8) similar to other studies(17,18,20)

Table10 shows the comparison of the time of surgery of this study with that of a French study(21)

Time of Surgery	Our results	Paris results
Less than 6h.	2.4%	6%
6-12 h	80.6%	18%
>12h	16.5%	76%

The delay in operating , does not increases mortality only, but increase the duration of hospitalization; this in itself increase expenses and sufferings(21).

The main postoperative complication was wound infection similar to other study(5).The mortality rate was low(1.1%) and in Finnish University hospital study was 1.9% (2) and the main causes were intestinal obstruction(3 cases, 50%) one patient died within an hour and was an advanced case of intestinal obstruction and the other 2 died after massive bowel resection of gangrenous bowel. 2 cases died from massive upper GIT bleeding and one patient died from Ca. stomach who developed anastamotic leak and multiple organ failure after surgery

CONCLUSION

Age and sex are important factors when the most probable cause of acute abdomen is to be considered, and acute appendicitis was the most common cause of acute abdomen($1/3^{rd}$) and constituted about $2/3^{rd}$ of operated cases.10% of cases with acute abdomen remained without specific explanation, and the accuracy of diagnosis can be further improved by using U/S and laparoscopy. The decrease in hospital stay will improve the outcome and and decreases expenses and sufferings.Operative treatment is necessary in almost half of the cases, and mortality of acute abdomen is low.

REFERENCES

1-Hofmann-von-kap-herr-S. The concept of the acute abdomen.Langenbecks.Arch.ChirSuppl-Kongressbd-1991,113-5

2-Miettinen-P; Pasanen-P; Lathinen-J. Acute abdominal pain in adults.Ann.Chir-Gynaecol.1996,85(1),5-9

3-Kim-JP; Kim-SJ;Lee-JH. Surgery in aged in Korea.Arch-Surg. Jan 1998; **133**(1),18-23

4-TJO'Kelly ; ZH Krukowski. The acute abdomen. The Journal of Surgery 11 Nov.1999 **17** ,249-251

5- Miettinen-P; Pasanen-P; Salonen-P;Lathinen-J. The outcome of elderly patients after operation for acute abdomen. Ann-Chir- Gynaecol. 1996,**85** (1), 11-15.

6-Hawthorn –IE. Abdominal pain as a cause of acute admission to hospital .J-R-Coll._Surg-Edinb. Dec 1992,**37**(6), 389-93

7-Madiba-TE; Haffejee-AA ;Mbte-DL. Appendicitis among African patients at King Edward VIII Hospital , Durban, South Africa.East-Afr-Med-J. Feb 1998,**75**(2),81-4

8-Shoshan-Y ;gross-E ;Cochen –P. Acute appendicitis of neurosurgical origin. Eur-J-Surg. Apr 1996 ; **162** (4), 343-5

9-Waldschmidt-J. Acute appendicitis in the child.Zentralbl-Chir.1998;**123** Suppl 4 ,66-71

10-Mark D Stringer; Ishika Ghose. Acute abdomen in children The Journal of Surgery. 5 May 1998,**16**.

11-Paterson- Brown; Vipond -MN. Clinical decision making and laparoscopy versus computer prediction in the management of the acute abdomen.B.J.Surg.1989, **76** ,1011-3

12-Cogyou-D ; Lamsert –P; Longman MJS. 20 years of hospital admissions for peptic ulcer in Eng. & Wales. Lancet 1981, 1 P.1302-4

13-K.D.Bardhan ;G.Cust. Changing pattern of admissions and operations for DU.B.J.Surgery, March 1989,**76**,230-6

14-Barm J H ;Alexander-Williams. Cimetidine & DU. B.M.J.1979 ,169-173.

15-Datubo-Brown-DD ; Adotey_JM. Pattern of surgical acute abdomen in the University of Port Harcourt Teaching Hospital. West-Afr-J-Med. Jan-Mar 1990,**9** (1) ,59-62

16-Lehmann-K ; Villiger-P ; Jenny-M .Helv-Chir-Acta. May 1992 ,**58** (6) :837-40

17-Seymour I. Schwartz. Appendix. Schwartz, Shires & Spencer. Schwartz principle of Surgery..McGraw Hill INC. health professions Division 6th Edition.1994 Ch.27: 1307-18

18-Lawrence W.Way. Appendix. Lawrence W.way.Current Surgical Diagnosis & Treatment.. Appleton & Lange 8th edition.1988 Ch.30 , P. 556-60

19-Paterson-Brown-S ;Vipond-MN. Modern aids to cilinical decision-making in the acute abdomen.Br-J-Surg. Jan 1990,77 (1),13-8.

20-Ian-D-Botterill ; Peter-M-Sagar. Intestinal obstruction.The Journal of Surgery. Oct.1998 ,**16**(10),221-7

21-Monod-Broca-P. Mortality in emergency abdominal surgery.Ann-Gastroenterol-Hepatol- Paris. Jan 1990 ,**26**(4) ,184-6

پەسەند کرا لە ٢٠٠٠/١٠/٢١ دا

شێوازی سك ئێشه له سلێمانی

د.فاروق حسن فرج
زانكۆی سلێمانی - كۆلیجی پزیشكی

پوخته

ئامانجی ئەم لێكولینه وه یه ڕونكردنه وه ی شێوازو تایبەتی مەندەكانی ئەو نەخۆشانەن كە تووشی سك ئێشه ی كتوپڕ بوون و لەبەشی كتوپڕیی نەخۆشخانەی فێركاری سلێمانی كەوتوون . ئەم لێكۆڵینەوەیە لەسەر ٥٢٠ نەخۆش كراوە . گرنگترین هۆكانیش بریتین لە : هەو كردنی ڕیخۆڵە كوێرە (٤٦ر٣٣ ٪) ، نەخۆشیەكانی كۆئەندامی میز ومێزەڕۆ (٨٨ر٢٧٪) ، سك ئێشەی نادیار (٣٤ر١١٪) ، نەخۆشیەكانی جۆگەی زراو (٨٤ر٨٪) .
كۆی گشتی ژنان زیاتر بووە لە پیاوان وڕێژەی پیاو بۆ ژن (٥٢:٤٨) ، بەڵام لە نەخۆشیە تایبەتییەكاندا جیاوازی تەمەن وڕەگەز هەبووە : هەوكردنی ڕیخۆڵە كوێرە زیاتر بووە لە پیاوی گەنجدا بەڵام سك ئێشەی نادیار لە ژنانی گەنجدا و نەخۆشی زراو لە ژنانی گەنج و بەتەمەندا و بەردی گورچیلە و زامی گەدە زیاتر لە پیاودا هەبووە .
٦ر٤٧٪ لە نەخۆشەكان پێویستیان بە نەشتەرگەری هەبووە و نەشتەرگەری بۆ ڕیخۆڵە كوێرە لە دەیەیی ٢-٣ تەمەندا ئەنجام دراوە و بۆ نەخۆشیەكانی زراو و زامی گەدە لە دەیەیی ٤-٦ ئەنجام دراوە . ٥٪ ی نەخۆشەكان دەرچوون لە نەخۆشخانە بەبێ مانەوە
٦ نەخۆش (١ر١٪)لەم نەخۆشانە مردوون و هۆی سەرەكی مردن بریتی بووە لە گیرانی ڕیخۆڵە (٥٠٪).
ئەنجامی ئەم لێكۆڵینەوەیە ئەوە ئەگەیەنێت كە : تەمەن وڕەگەز هەردووكیان گرنگن كاتێك بۆ هۆی سك ئێشە بگەڕێین ، و هەوكردنی ڕیخۆڵە كوێرە گرنگترین هۆی سك ئێشەیە (٣/١) و هەروەها (٣/٢) ی نەشتەرگەرییەكان بۆ لابردنی ڕیخۆڵە كوێرە ئەنجام دراوە وە ١٠٪ ی نەخۆشەكان هۆیەكی تایبەتی نییە بۆیان و نەشتەرگەری بۆ نزیكەی نیوەی نەخۆشەكان پێویست بووە و ڕێژەی مردن لە سك ئێشەی كتوپڕدا كەمە .

حالات البطن الحادة في السليمانية

د.فاروق حسن فرج
جامعة السليمانية - كلية الطب

الخلاصة

ان الهدف من هذه الدراسة هي لبيان نمط وخواص حالات البطن الحادة بدون اصابات البطن والتي ادخلت قسم الطوارىء في المستشفى التعليمي في السليمانية . وان هذه الدراسة شملت ٥٢٠ مريضا ، وكان التهاب الزائدة الدودية من اكثر الأسباب (٤٦ر٣٣٪) وتلتها امراض المجاري البولية (٨٨ر٢٧٪) ومن ثم حالات الام بطن غير متخصصة (٣٤ر١١٪) وامراض القنوات الصفراوية (٨٤ر٨٪) و كان عدد النساء اكثر من الرجال في مجمل الدراسة وان نسبة الرجال الى النساء كانت (٥٢:٤٨) و لو كان هناك فوارق في العمر والجنس في حالات خاصة : ان حالات التهاب الزائدة الدودية وجدت اكثر في الشباب بينما الام البطن غير المتخصصة وامراض القنوات الصفراوية في النساء الشابات و في المسنات . وكان الرجال اكثر اصابة بقرحة المعدة وحصاة الكلى .

تم اجراء العمليات ل (٦ر٤٧٪) من المرضى وان اكثر العمليات اجريت لرفع الزائدة الدودية وفي العقدين (٢-٣)من العمر بينما التداخل الجراحي لقرحة المعدة والمجاري الصفراء تمت في العقدين (٤-٦) ، وان ٥٪ من الحالات اخرجت في نفس اليوم . وان ٦ من المرضى ماتوا (١ر١٪) وكان انسداد الامعاء هوالسبب الرئيسي (٥٠٪) .

ان خلاصة البحث اكدت على ان الجنس والعمر عاملان مهمان في تحديد سبب حالات البطن الحادة ، وان التهاب الزائدة الدودية هي من اهم الاسباب (٣/١)،وان (٣/٢) من العمليات في الطوارىء اجريت لرفع الزائدة الدودية ، وبقيت نسبة ١٠٪ من حالات البطن الحادة بدون سبب خاص، كما وان حوالى نصف من الحالات احتاجت لتداخل الجراحي، وان نسبة الوفيات قليلة في حالات البطن الحادة.