ISSN: 2319-6505

Available Online at http://journalijcar.org

International Journal of Current Advanced Research
Vol 4, Issue 9, pp 357-359, September 2015

International Journal of Current Advanced Research

ISSN: 2319 - 6475

RESEARCH ARTICLE

AETIOLOGIES OF NON-TRAUMATOLOGICAL ABDOMINAL SURGERY EMERGENCIES IN BUTEMBO, DEMOCRATIC REPUBLIC OF CONGO

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A R T I C L E I N F O

Article History:

Received 22th, August, 2015
Received in revised form 31th, August, 2015
Accepted 19th, September, 2015
Published online 28th, September, 2015

Key words:

Aetiologies, Surgery, Abdominal, Non-traumatological, Emergency, DR. Congo

A B S T R A C T

Background: Abdominal pains constitute 5-10% of admissions in emergency unit. Vital emergencies represent 1% of abdominal emergencies.

Aim: This study aimed to determine the prevalence and aetiologies of non-traumatological abdominal surgery emergencies in Butembo, Democratic Republic of Congo.

Methods: This was a prospective cross sectional study conducted in four hospitals of Butembo (Cliniques Universitaires du Graben, Matanda hospital, GRH of Katwa and Kitatumba) from October 15th, 2013 to April 14th, 2014.

Result: A total of 1058 patients were admitted in Surgery departments of the four hospitals, patients from whom 203 were operated for urgent non-traumatic abdominal pathologies. The mean age was 30.2 and principal aetiologies of non-traumatological abdominal surgery emergencies were appendicitis (47.8%), peritonitis (21.2%) and intestinal occlusions (19.2%).

Conclusion: This study helped to know frequent aetiologies of non-traumatological abdominal surgery emergencies in Butembo as out of the situations of immediate gravity, a good knowledge of the most frequent pathologies allows, in the majority of the cases, to decide the most suitable management. Appendice affections constitute the frequent abdominal surgical emergencies. Performing its earliest diagnosis would be better.

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INTRODUCTION

Emergency is a situation which must be remedy without delay [1]. The vital prognosis in emergency cases is reserved if the patient is not managed correctly and sequels can follow this situation [1,2]. Abdominal emergencies cove a great nosological sector from acute appendicitis to the necrotic/hemorrhagic pancreatitis, through hemo-peritoneum, occlusive syndrome and peritonitis [2]. Abdominal pains constitute 5-10% of admissions in emergency unit [3,4]. Vital emergencies represent 1% of abdominal emergencies [3]. If the acute abdominal pains constitute one of the frequent cause for complaint in urban hospitals (3-5% of admissions in paediatric emergency unit), the surgical aetiologies represent only 10-20% of cases [5]. Appendicitis is of course the frequent diagnostic (1-8% of cases) but the most difficult in current practice [5]. Out of the situations of immediate gravity, a good knowledge of the most frequent pathologies allows, in the majority of the cases, to decide the most suitable management [5,6]. So, this study aimed to determine the epidemiology and aetiologies of non-traumatological abdominal surgery emergencies in Butembo, Democratic Republic of Congo.

METHODS

This was a cross sectional prospective study conducted from October 15th, 2013 to April 14th, 2014 in Butembo, Democratic Republic of Congo. The recruitment took place in the different surgery departments of Matanda Hospital, Cliniques Universitaires du Graben, and General Referral Hospitals of Katwa and Kitatumba. The selection of hospitals where the study has been done, took into account of the frequentation and the nature of interventions achieved and of the hierarchy (structures of reference).

This study included patients undergoing surgery relevant to the non-traumatological abdominal emergency and with complete medical file. Patients with tumoural occlusion which the symptomatology dated from several days and with uncompleted medical file were excluded. Hence, 1058 patients were concerned by this study but only 203 responded to our inclusion criteria.

Different diagnosis were confirmed from clinical examination and macroscopic examination of lesions found.

The protocol of this study was submitted and approved by the Ethical reviewer of Université Catholique du Graben. Written informed consent was obtained from patients after explaining the purpose and objective of the study.

Capture and analysis were performed by using EPI INFO7.1.3.0 software, software for computer processing of

epidemiological surveys. We have used the usual statistical tests such as percentages, sex ratio, and mean with standard deviation.

RESULTS

Epidemiology of non-traumatological abdominal surgery emergencies

During our study period, 1058 patients were admitted in surgery departments of the four hospitals (Cliniques Universitaires du Graben, Matanda hospital, GRH of Katwa and Kitatumba); patients from whom 203 were included in this study. Non-traumatological abdominal surgery emergencies represented 19.18% of admissions in surgeries departments of the four hospitals in which this study was conducted. The bracket age more touched was 21-30 years old (Table 1). The mean age was 30.2 with 2 months and 83 years old as extreme ages.

Table1 Patients repartition according to their age

Age	n	%
0-10	15	7.4
11-20	51	25.1
21-30	55	27.1
31-40	30	14.8
41-50	7	6.9
51-60	7	6.9
61-70	16	7.9
71-80	3	1.5
>80	5	2.4
Total	203	100

Aetiologies of non-traumatological abdominal surgery emergencies

The most frequent aetiology is the acute appendicitis (47.8%) followed by acute peritonitis, acute intestinal occlusion and gynaecologic causes with respectively 21.2%, 19.2% and 8.8%. Tuberculous ileitis, abdominal aneurism punched, kidney abscess and vesicular abscess were not frequent and represented respectively 1.5% and 0.5% for the three remaining. Females were most represented in 59.6% and the sex ratio was 0.6 (Table 2).

Table 2 Principal aetiologies of non-traumatological abdominal surgery emergencies

Aetiologies	Male	Female	Total	%
Acute appendicitis	37	60	97	47,8
Acute peritonitis	18	25	43	21,2
Acute intestinal occlusion	25	14	39	19,2
Gynaecologic causes	0	18	18	8,8
Tuberculous ileitis	0	3	3	1,5
abdominal aneurism punched	1	0	1	0,5
Kidney abscess	1	0	1	0,5
Vesicular abscess	0	1	1	0,5
Total	82	121	203	100

According to per-operative lesions observed, appendice lesions were the most observed lesions (54.7%) followed by acute intestinal occlusion, non-infectious gynaecological affections and perforation of digestive tract with respectively 19.2%, 8.8% and 8.8% (Table 3).

Regarding the appendice affections, 79 (71.2%) cases of the catarrhal appendicitis were observed, followed by 14 (12.6%) cases of necrotic appendicitis, 16 (14.4%) cases of punched appendicitis and appendicular plastron (Table 4).

Table 3 Per-operative lesions

Types of lesions	n	%
Appendice lesions	111	54,7
Acute intestinal occlusion	39	19,2
Non-infectious gynaecologic affection	18	8,8
Perforation of digestive tract	18	8,8
Peritonitis from gynaecologic origin	10	4,9
Abscess of abdominal whole viscera	3	1,5
Stains of ileum candles	3	1,5
Aneurysm of punched aorta	1	1,5
Total	203	100

Table 4 Appendicular affections

Appendicular affections	n	%
Catarrhal appendicitis	79	71,2
Necrotic appendice	14	2,6
Punched Appendice	16	14,4
Appendicular plastron	2	1,8
Total	111	100

Among aetiological lesions of intestinal occlusions, bridles were observed in 43.6%, strangulated hernia in 20.5%, ileo-caecum invagination in 20.5%, caeco-colic invagination in 7.7%, extrinsic obstruction in 5.1% and obstruction by faeces in 2.6% (Table 5).

For the peritonitis aetiologies, visceral perforations and abscess were incriminated (Table 6).

Table 5 Aetiological lesions of intestinal occlusions

Etiologies	n	%
Bridles	17	43,6
Strangulated hernia	8	20,5
Ileo- caecum invagination	8	20,5
Caeco-colic Invagination	3	7,7
Extrinsic Obstruction	2	5,1
Obstruction by faeces	1	2,6
Total	39	100

Table 6 Aetiological lesions of peritonitis

Types of lesions	n	%
Intestinal perforation	12	27,9
Appendicular perforation	11	25,6
Gastric perforation	9	20,9
Endometritis (post-caesarean section, clandestin abortion)	7	16,3
Tubal abscess	3	6,9
Liver abscess	1	2,4
Total	43	100

DISCUSSION

Epidemiology of non-traumatological abdominal surgery emergencies

The frequency of non-traumatological abdominal surgery emergencies was 19.18%. This rate is high comparing to the one reported in the whole of emergencies in France (5-10%) and this include surgical and medical emergencies [6-8]. Our findings would be estimated correctly if each hospital could have an emergency unit well structured. The age of 21-30 was more touched than others but the mean age was 30.2 years. Attipou *et al.*, in their study, found the mean age of 32 years. His results and ours are proximate to be the same [9].

Aetiologies of non-traumatological abdominal surgery emergencies

Appendicitis was the most pathology observed (47.8%)

followed with acute peritonitis (21.2%) and intestinal occlusions (19.2%). A study conducted in Togo has shown appendicitis (36.3%) in first rank of non-traumatological abdominal surgery emergencies, followed by peritonitis (33.5%) and intestinal occlusions (24.9%) [9].

Studies conducted in France and Lomé reported the predominance of appendicitis followed by cholecystitis, intestinal occlusions and peritonitis [7,9]. Non-traumatological abdominal surgery emergencies are frequent at females than at males: 59.6% against 40.4% with a sex ratio of 0.6 (see table 2). Attipou *et al*l. Found 64.4% for males against 35.6% for females, sex ratio of 1.8 [9]. Abdoul Aziz and Dembelé, in their study conducted in Mali, found also the predominance of males to females with a sex ratio of 1.8 [10, 11]. This discrepancy would be explained by the default in differential diagnosis between appendicitis and gynaecological affections at women as by contiguity an adnexitis may lead to an exo-appendicitis.

CONCLUSION

Non-traumatological abdominal surgery emergencies represent a non-neglected proportion of admissions in surgery; patients concerned are mostly young adults with predominance of females on males. The most incriminated pathology is the acute appendicitis. Intestinal perforations and appendicular perforations are the frequent aetiologies of peritonitis. In our survey, the determination of the aetiology of the intestinal perforation was not well specified. The systematic research of the amoebas in the stools and antibodies anti-typhoid before all intestinal perforation would permit to confirm some more frequent aetiologies in tropical Africa.

Conflict of Interest: None declared

Acknowledgements

This work was supported by the excellence scholarship program BEBUC (www.foerderverein-uni-kinshasa.de), by the Else-Kroener-Fresenius-Stiftung and the Holger-Poehlmann-Stiftung. Our particular thanks are addressed to Prof. Alfred Forchel.

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