

# SURGICAL EMERGENCY PRESENTATION IN A PRIVATE TEACHING HOSPITAL IN NIGERIA: A 2-YEAR REVIEW

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## ABSTRACT

**BACKGROUND:** Pattern of admissions into the accident and emergency units vary worldwide with most studies showing surgical preponderance.

Unlike the outcome of our study that showed more of medical cases, another study done in University College Hospital (UCH), Ibadan, Nigeria showed that 61% of admissions into the accident and emergency unit were surgical with trauma in general constituting 45.1%. With rising population and reduced funding, most tertiary care hospitals in developing countries grapple with high patient admissions into their emergency units.

Lack of adequate personnel and facilities to cater for such patients result in poor patient satisfaction and management.

Adequate funding and regular training of personnel should therefore be emphasized if we are to approach the standard care provided in developed countries and reap a satisfactory outcome in care of emergency surgical situations.

**METHOD:** This is a 2-year retrospective study, data of all patients admitted in the adult accident and emergency section of Babcock University between January 2016 and December 2017 were retrieved and reviewed. Frequencies were presented as absolute values, charts and percentages.

**RESULTS:** In 2016, a total of 1901 emergency cases presented to the adult accident and emergency unit of Babcock University Teaching Hospital of which 341 were surgical. In 2017, a total of 1887 emergency cases were seen in the adult accident and emergency unit of Babcock University Teaching Hospital of which 363 [17.24%] were surgical. Overall, a total of 3788 emergency cases presented of which 704 [17.24%] were surgical cases. Of these 704 cases, 457 of them [64.9%] were acute surgical emergencies like head injuries, burns, cholecystitis, intestinal obstruction, testicular torsion, deep laceration injuries, acute urinary retention, fractures, appendicitis, pleural effusion, upper GI bleeding, cervical spine injuries [table 1] and the remaining 247 cases [35.1%] were non-emergencies (cold) cases. Of these 457 surgical emergencies, appendicitis accounted for 133 [29.10%] of cases making it the commonest surgical emergency that presented in our hospital in these two years.

**CONCLUSION:** The most common surgical emergency was acute appendicitis 133 cases [40.06%] followed closely by deep lacerations resulting from road traffic accidents 98 cases [25.83%] and head injuries 47 cases [13.4%] among others

This study also highlights the pattern of emergency surgical cases expected from the accident and emergency department of a typical private hospital which does not always mimic the pattern seen in other public hospitals.

This information may help the management in recruiting appropriate staff for the surgical emergency unit/department of a teaching hospital

**Keywords:** Babcock University Teaching Hospital, Adult Accident and Emergency Unit, Surgical Emergency, Appendicectomy

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## INTRODUCTION

Surgical emergency is an acute illness that requires surgeon's intervention to resolve the acute threat to life, organ, limb or tissue caused by an external trauma, acute disease process, or an acute exacerbation of chronic disease process or complication of previous surgical or other interventional procedures.<sup>1</sup>

Emergency surgical care has been given high priority in tertiary care [teaching] hospitals and has become a very important aspect of

training emergency care doctors.<sup>1</sup> The adult accident and emergency unit of Babcock University Teaching Hospital receives various emergencies including medical, gynaecological, ophthalmic, maxillofacial, haematological, general surgery emergencies. Others include paediatrics, burns and plastic, urological and orthopaedic emergencies.

It is a policy of the accident and emergency unit that emergencies be reviewed and admitted into the wards within 24 – 48 hours by various subspecialties. This study was carried out to determine the pattern of presentation of surgical emergencies compared with the total number of

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emergency cases seen at the adult accident and emergency section of Babcock University Teaching Hospital within a 2 year period of January 2016-December 2017.

## METHODOLOGY

This is a 2-year retrospective study in which data retrieved from our records department of all emergencies admitted in the adult accident and emergency section of Babcock University Teaching Hospital between January 2016 and December 2017 were reviewed and the surgical emergencies compared with the total number of all emergencies recorded in those years. These results were manually documented. No softwares are yet available in the records department. Frequencies were presented as absolute values, charts and percentages.

## INCLUSION CRITERIA

To certify which cases of acute abdomen were actually due to acute appendicitis, only cases of acute appendicitis confirmed by both clinical and /or ultrasound assessment were included in the study.

## EXCLUSION CRITERIA

Patients that presented with features of acute abdomen but did not have ultra sound confirmation of acute appendicitis and/or who discharged themselves against medical advice before confirmation were excluded from the study.

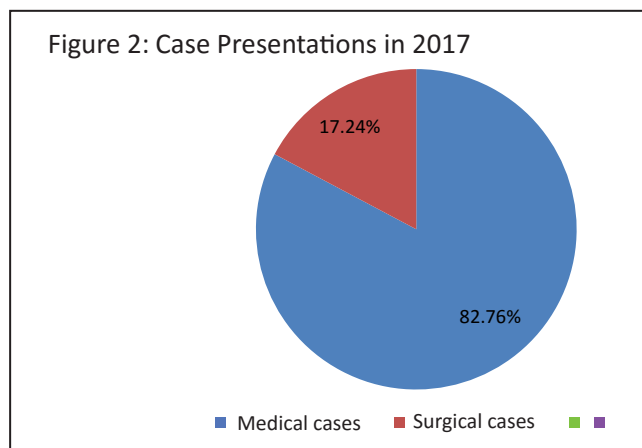
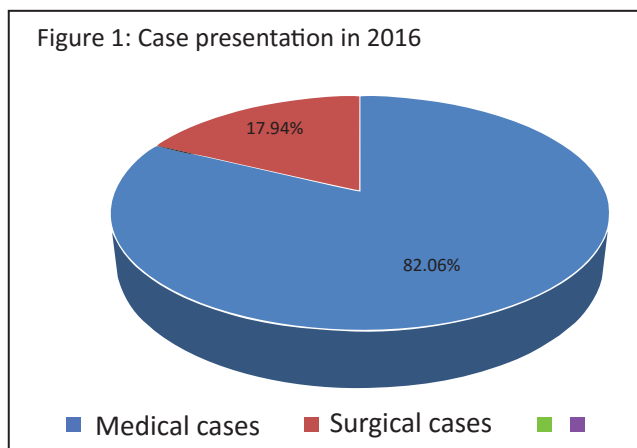
## RESULTS

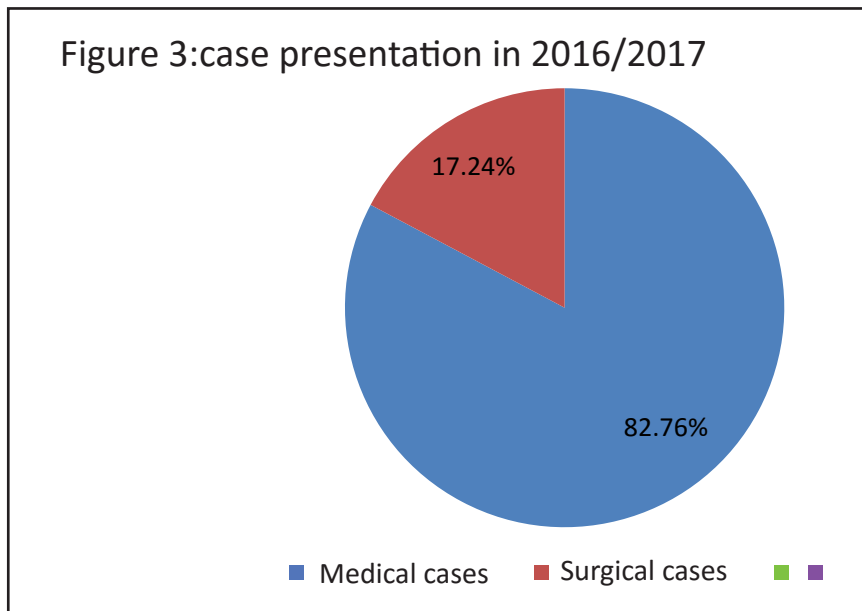
In 2016, a total of 1901 emergency cases presented to the adult accident and emergency unit of Babcock University Teaching Hospital of which 341 were surgical [17.94%]. Figure 1

In 2017, a total of 1887 emergency cases were seen in the adult accident and emergency unit of Babcock University Teaching Hospital of which 363 [17.24%] were surgical. Figure 2

Overall, a total of 3788 emergency cases presented of which 704 [17.24%] were surgical cases, figure 3. Of these 704 cases, 457 of them [64.9%] were acute surgical emergencies like head injuries, burns, cholecystitis, intestinal obstruction, testicular torsion, deep laceration injuries, acute urinary retention, fractures, appendicitis, pleural effusion, upper GI bleeding, , cervical spine injuries [table 1] and the remaining 247 cases [35.1%] were non-emergencies (cold) cases, of these 457 surgical emergencies, appendicitis accounted for 133 [ 29.10%] of cases [table 2]

The most common surgical emergency was acute appendicitis 133 cases [40.06%] followed closely by deep lacerations resulting from road traffic accidents 98 cases [25.83%] and head injuries 47cases [13.4%] among others.





**Table 2: Distribution of surgical emergencies**

CASE	2016		2017	
	NUMBER OF CASES SEEN	PERCENTAGE	NUMBER OF CASES SEEN	PERCENTAGE
HEAD INJURY	26	7.62	21	5.87
BURNS	13	5.75	11	4.76
ACUTE URINARY RETENTION	14	4.10	15	4.13
TESTICULAR TORSION	6	1.76	6	1.65
CHOLELITHIASIS	4	1.17	4	1.10
INTESTINAL OBSTRUCTION	6	1.76	7	1.93
FRACTURE	38	11.40	35	9.64
DEEP LACERATION SECONDARY TO RTA	44	12.90	47	12.93
APPENDICITIS	61	20.23	72	19.83
PLEURAL EFFUSION	3	0.88	3	0.82
UPPER GI BLEEDING	7	2.05	6	1.65
C-SPINE INJURIES	4	1.17	4	1.10
OTHERS	115		132	
<b>TOTAL</b>	<b>226</b>		<b>231</b>	

## DISCUSSIONS

3788 cases reported to the adult accident and emergency unit of Babcock University Teaching Hospital between January 2016 and December 2017. Of these, 704 were surgical and of the 704 cases, 457 of them accounted for the various surgical

emergencies as shown in the results.

From the study, appendicitis was found to be the commonest surgical emergency encountered in the adult accident and emergency unit of Babcock University Teaching Hospital. This is in keeping with previous studies.<sup>5,6</sup> Worldwide incidence of

appendicitis is estimated to be 86 cases annually/100,000 population.<sup>7</sup> Low income countries have reported a gradual rise in the number of cases of appendicitis in recent times.<sup>8</sup>

In Nigeria, prevalence of acute appendicitis in the western part of the country is about 15-40%.<sup>9</sup> Some of the reasons advanced in the past for the gradual rise in acute appendicitis cases included a gradual change in the dietary habit to westernized diet.<sup>8</sup> The study shows a female preponderance [1.56:1] which compares favourably with other studies in Maidugiri, Nigeria<sup>10</sup> and Canada.<sup>11</sup> The female preponderance is also in keeping with a study done in 2012 at University of Port Harcourt Teaching Hospital.<sup>12</sup> However this study contrasts with some reports within and outside the country in which males predominate.

In this study, prevalence of appendicitis was highest among patients aged 15-24 years [58.6%] and lowest in those above 54 years [3.76%] and this pattern of age prevalence is in keeping with a study done in 2014<sup>13</sup> where those aged 10-29 years accounted for 60% of cases.

The high incidence of acute appendicitis over other surgical emergencies presenting in Babcock University Teaching Hospital could be multifactorial and may include Location, Cost and The surrounding or "catchment" community. Even though Babcock University Teaching Hospital is situated less than 1km off a main highway from Lagos to Benin, it is a relatively new institution [less than 7 years old] compared to other hospitals in the neighbourhood and therefore few patients in dare emergencies like trauma would remember Babcock University Teaching Hospital as a first choice. Babcock University Teaching Hospital may be faith based but it is a private establishment owned by the Seventh Day Adventist Church, therefore cost is of essence.

Again with so many government owned hospitals in the vicinity and the fear that trauma cases stay long in the hospital and attract a huge cost, patients with trauma prefer to patronize "the cheaper" hospitals. Most significantly, Babcock University Teaching Hospital serves over 11,000 staff and student.<sup>14</sup> When school is in session, these students and staff tend to have more acute abdomen [like acute appendicitis] than fracture and other surgical emergencies.

The male/female ratio is not in consonant with findings elsewhere but is a mirror image of the mix in the student population that Babcock University Teaching Hospital serves.

## CONCLUSION

Acute appendicitis is the commonest surgical emergency presentation in the adult emergency department of Babcock University Teaching Hospital and from previous studies, it is also the commonest abdominal emergency worldwide.<sup>8</sup>

Although biomarkers and imaging are valuable adjuncts to history and examination, their limitations mean that clinical assessment is still the mainstay of diagnosis.<sup>15</sup> Appendectomy [open or laparoscopic] is the treatment of choice and it is still increasingly done as a laparoscopic procedure. The mortality rate from the cases of acute appendicitis seen in our hospital was 0%. But although mortality rate is low, post-operative complications are common in complex cases.<sup>15</sup> Early diagnosis and prompt surgical intervention still remains the key to a successful outcome.

## RECOMMENDATIONS

Our recommendation from the study is that programs such as sensitizations, workshops and lectures on appendicitis for both staff and students of the university should be implemented on a regular basis to provide

structured and comprehensive education on the subject matter and in turn reduce complications, morbidity and mortality associated with acute appendicitis.

The study also highlights the need for tertiary hospitals to ensure that traumatologists and general surgeons are available in the hospital at all times.

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