Pattern of Adult Surgical Admissions at the Niger Delta University Teaching Hospital, Okolobiri, Bayelsa State – a 2- Year Review

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ABSTRACT

BACKGROUND
It is important to know the pattern of disease in any environment as this information is useful in planning intervention strategies. There is however a paucity of studies on the pattern of surgical diseases in Nigeria. We therefore aim to document the pattern of surgical diseases in adult surgical in- patients at the Niger delta University Teaching Hospital, Okolobiri, Bayelsa State.

METHODS
All adult surgical patients admitted into the wards at the Niger delta University teaching hospital between January, 2010 and December, 2012 were retrospectively studied.

RESULTS
A total of 597 adult surgical in- patients were studied. There were 438 (73.5%) males and 158 (26.5%) females. The mean age of patients was 42.9± 18.2 years. The commonest diagnostic category was trauma 31.7%. This was followed by gastrointestinal conditions 20.6%, external hernias 16.1%, malignancies 8.2%, genitourinary conditions 7.7%, leg ulcers 6.5%, soft tissue infections 3.0% and others 6.2%.

We observed a mortality rate of 7.5% which was highest among patients with malignancies at 24.5%.

CONCLUSION
Trauma was the commonest cause of surgical admission while the percentage of deaths was highest in patients with malignancies.

KEYWORDS
Adult Surgical Admissions; Pattern; Niger Delta; Nigeria

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INTRODUCTION

There is a paucity of studies on the general pattern of surgical diseases among adults in Nigeria. Most studies done were disease specific with emphasis on particular surgical conditions. On the contrary, there are a number of hospital- based studies which focus on the pattern of surgical diseases in children[1,2,3]. Children are not little adults and the pattern of diseases in children differs from those of adults. It is therefore not accepted to extrapolate disease patterns in children to adults.

Also the few studies on the pattern of adult surgical admissions which are in the literature were not done in this part of the country[4,5,6]. We know that disease patterns vary from one location to another. It is therefore also not appropriate to use the results of such studies for our own environment. This is particularly important when we consider the uniqueness of our environment; which was bedevilled by increase militancy and armed conflicts as a consequence of environmental degradation

and socio-economic under development associated with crude oil exploration activities in the heart of the Niger Delta region. We therefore undertook this study to document the pattern of surgical disease among adults admitted in our hospital.

METHODS

This study was done at the Niger Delta University teaching hospital (NDUTH) a new 120- bed Teaching hospital which evolved from an existing General hospital. It is located at Okolobiri, a semi- rural community situated close to Yenagoa the Bayelsa State capital, in Nigeria's Delta region.

All adult surgical patients admitted into the male and female surgical wards of the hospital between January, 2010 and December 2012 were retrospectively studied. Patients who absconded or left hospital against medical advice were excluded from the study.

Patient information including age, sex, diagnosis and outcome were obtained from the ward admission and discharge register and the patients' case notes. Such information was recorded on a pro forma and the data analysed using IBM SPSS Statistics version 20 software.

Results are presented in tables and other charts as appropriate.

RESULTS

A total of 631 adult surgical in- patients were admitted between January, 2010 and December, 2012. Of these, 34 were excluded from the study because they left the hospital against medical advice. Five hundred and ninety seven patients were therefore studied. There were 438 (73.5%) males and 158 (26.5%) females.

The ages of the patients ranged from 17 years to 93 years. The mean age of the patients was 42.9± 18.2 years. The mean age of males was 43.7± 18.6 years, while that of females was 40.6± 16.9 years.

A total of 189 (31.7%) were admitted because of trauma while 408 (68.3%) were non- trauma cases.

Table 1 and Figure 1 show a summary of various diagnostic categories of patients admitted.

Table 2 shows the various causes of trauma in adult surgical patients admitted.

Table 3 shows the various causes of gastrointestinal problems. Appendicitis and its complications were the leading cause of gastrointestinal disease, accounting for 77(57.7%) of all patients admitted for a gastrointestinal condition.

Table 4 shows all the adult surgical malignant conditions admitted during the period. Breast cancer was the leading cause of cancer with 18(36.6%). This was followed by prostate cancer 16(32.8%) and then colonic cancer 5(10.2%).

Table 5 shows the patients with various types of hernias admitted. Eighty seven (90.6%) of these hernias were inguinal hernia. Incisional hernia and umbilical hernia accounted for 4(4.2%) and 3 (3.2%) respectively.

Table 6 shows patients with genitourinary problems. Of the 46 patients with genitourinary problems, 26(56.5%) had Benign prostatic hyperplasia while 9(19.6%) had hydrocoeles and 6(13.0%) were admitted for urethral strictures.

Table 7 illustrates the patients with soft tissue infections. Cellulitis 8(44.4%) was the commonest soft tissue infection followed by pyomyositis 3(16.6%).

Table 8 is a summary of all the other unclassified causes of admission. Peri- anal conditions such as haemorrhoids, anal fissures etc accounted for 15(40.5%), breast lumps 8 (21.6%) and lipomas 5(13.5%).

The overall mortality was 45(7.5%). Twelve or

24.5% of all patients with malignant conditions died in admission. Ten (8.1%) of those with gastrointestinal problems and 12 (6.3%) of all trauma patients died.

Table 1: Diagnostic categories of adult surgical in- patients

Diagnostic group	Number of patients	Percentage
Trauma	189	31.7%
Gastrointestinal conditions	123	20.6%
Hernias	96	16.1%
Malignancies	49	8.2%
Genitourinary conditions	46	7.7%
Leg ulcers	39	6.5%
Soft tissue infections	18	3.0%
Others	37	6.2%
Total	597	100.0%

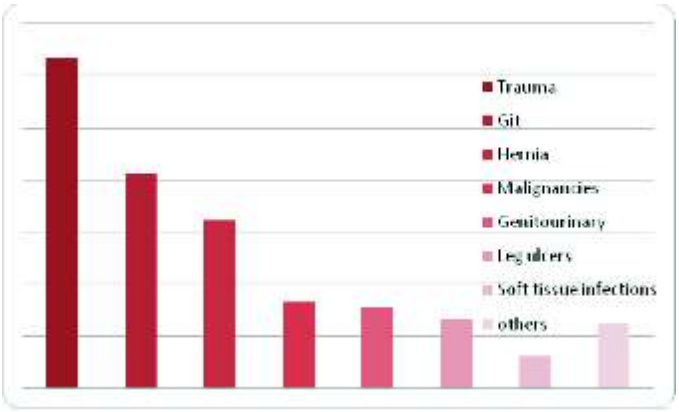

Figure 1: causes of admission according to diagnostic categories.

Table 2: Causes of trauma in patients studied.

Type of trauma	Number of patients	Percentage
Trauma from Road traffic accidents	126	66.7%
Trauma from assault	27	14.3%
Burn injury	31	16.4%
Others	5	2.6%
Total	189	100.0%

Table 3: Types of Gastrointestinal conditions of patients

Diagnosis	Number of patients	Percentage
Appendicitis and complications of appendicitis	71	57.7%
Abdominal mass	1	0.8%
Upper gastrointestinal bleeding	4	3.3%
Intestinal obstruction	28	22.8%
Enterocutaneous fistula	4	3.3%
Perforated peptic ulcer	2	1.6%
Typhoid perforation	6	4.9%
Acute abdomen ?cause	1	0.8%
Exacerbation of peptic ulcer	1	0.8%
Total	123	100.0%

Table 4: Types of malignancies among patients

Diagnosis	Number of patients	Percentage
Breast cancer	18	36.7%
Prostate cancer	16	32.8%
Colonic tumour	5	10.2%
Malignant leg ulcer	2	4.1%
Bladder cancer	2	4.1%
Osteosarcoma	3	6.1%
Liposarcoma	1	2.0%
Rhabdomyosarcoma	1	2.0%
Stomach cancer	1	2.0%
Total	49	100.0%

Table 5: Types of Hernias among the patients

Types of hernia	Number of patients	Percentage
Inguinal hernia	87	90.6%
Incisional hernia	4	4.2%
Umbilical hernia	3	3.2%
Femoral hernia	1	1.0%
Para umbilical hernia	1	1.0%
Total	96	100.0%

Table 6: Types of conditions of the genitourinary tract in patients.

Diagnosis	Number of patients	Percentage
Benign prostatic hyperplasia	26	56.5%
Hydrocoele	9	19.6%
Urethral stricture	6	13.0%
Epididymo- orchitis	2	4.3%
Testicular torsion	1	2.2%
Priapism	1	2.2%
Cyst of spermatic cord	1	2.2%
Total	46	100.0%

Table 7: Causes of Soft tissue infections

Diagnosis	Number of patients	Percentage
Cellulitis	8	44.4%
Pyomyositis	3	16.6%
Thigh abscess	1	5.6%
Gluteal abscess	1	5.6%
Infective granuloma	1	5.6%
Osteomyelitis	2	11.1%
Wound sepsis	2	11.1%
Total	18	100.0%

Table 8: Other causes of admission among surgical patients

Diagnosis	Number of patients	Percentage
Peri anal conditions (haemorrhoids, anal fissures etc)	15	40.5%
Breast lump	8	21.6%
Lipoma	5	13.5%
Varicose veins	2	5.4%
Cleft lip	1	2.7%
Gluteal ulcer	1	2.7%
Goitre	2	5.4%
Gynaecomastia	1	2.7%
Keloids	1	2.7%
Baker's Cyst	1	2.7%
	1	2.7%
Total	37	100.0%

DISCUSSION

This study was carried out to document the pattern of adult surgical admissions at the Niger Delta University teaching hospital. We observed that trauma was the leading cause of hospitalisation. It was followed by gastrointestinal problems, external hernias and malignancies. Findings from other studies also found trauma to be the leading cause of admissions among surgical patients[2,7,8]. It is also interesting to observe that over 66% of our trauma cases were attributable to road traffic accidents. This agrees with other studies in both children and adults which reported that road traffic accident was the leading cause of trauma[4,9]. The high incidence or prevalence of trauma seen in this study, can be attributed to the poor state of roads in this environment. There is also a high degree of reckless driving among drivers.

Conditions of the gastrointestinal tract accounted for the second leading diagnostic group in our study. Appendicitis and its complications were the leading cause of gastrointestinal problems. Appendicitis is very common in this part of the world and several studies report it to be the leading cause of surgical acute abdomen[10,11,12,13].

When various surgical diseases are considered separately, inguinal hernia was found to be the commonest diagnosis. This is in agreement with findings from other studies which also observed inguinal hernia to be the single leading surgical diagnosis in some centres[14,15]. This is mainly related to the occupation of the people. In our area of practice, most of the inhabitants are fishermen and farmers and under-take strenuous physical activities which increase the risk of inguinal hernia.

Malignancies were also common in our series. Breast cancer in females and prostate cancer in males accounted for over 30% of all cancers. This is expected. Breast cancer in women and prostate cancer in men are commonest cancers in Nigeria and many other parts of the world[16,17,18]. Cancers also accounted for the highest proportion of deaths in this study. Other studies also show cancer and trauma to be the leading causes of death in surgical patients[19,21]. Patients with cancer are known to present late to hospital for treatment and therefore tend to have poor outcomes. Kene TS et al[22] working in North western Nigeria and Adesunkanmi AR and his colleagues[19] in South western Nigeria found that over 60% and 80% respectively of their patients with breast cancer presented to hospital for the first time with advanced breast cancer. They also noted higher mortality rates for these patients as compared those who presented with early cancer. The lack of screening facilities for cancer and the low levels of awareness and high illiteracy rates may also contribute to this rather sad scenario.

CONCLUSION

Trauma, gastrointestinal surgical diseases, hernias and malignancies were found to be leading cause of adult surgical hospitalisation. Trauma and cancer were among the leading causes of death in this hospital. We should therefore provide a dedicated trauma centre which should be manned by adequately trained staff. This would definitely reduce mortality from trauma. Also, public enlightenment on the need for early diagnosis and treatment of cancers must be a priority.

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