

# Pattern of surgical admissions to Tikur Anbessa Hospital, Addis Ababa, Ethiopia.

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**A three-year retrospective analysis was undertaken of all surgical admissions to Tikur Anbessa Hospital (TAH) between September 1994 and August 1997. There was a total of 5,353 surgical admissions of which 3,968 (74.1%) were elective cases. The overall male to female ratio was 1.7:1. Gastrointestinal and genitourinary conditions accounted for 62% of elective cases, while for emergencies, gastrointestinal and neuro-surgical patients constituted 75.8% of admissions. The overall mortality was 8%, being higher for emergencies (21.1%) than for elective surgery (3.4%). Gastrointestinal (GI) and neurosurgical conditions accounted for 71.2% of all deaths. Neurosurgical emergencies had the highest mortality rate (36.8%). The admission pattern revealed that many of the patients had conditions that could have been treated at the secondary level hospitals and that some causes of death were preventable.**

## Introduction

Analysis of hospital admissions is not the best method of studying the disease pattern of a community. However, despite its limitations, a study of such a kind can give good information about the common diseases that require hospital admission. It can also provide background data for comparison with similar studies from elsewhere. Unlike the situation in the developed nations, surgery in

developing countries is mainly performed on acute and curable conditions<sup>(1)</sup>.

In this retrospective study we present our findings of the pattern of surgical admissions at Tikur Anbessa Hospital. This hospital is the main teaching and tertiary referral centre in Addis Ababa, Ethiopia.

## Patients and methods

The records of all surgical admissions to Tikur Anbessa Hospital (TAH) between September 1994 and August 1997 were studied. TAH has a 250 surgical bed capacity.

Diagnoses were classified according to the WHO classification<sup>2</sup> except for malignant diseases which were recorded according to the system they involved. Patients admitted to the orthopaedic department and those transferred to other departments were excluded from the study. The patients' addresses were classified according to whether they lived in Addis Ababa and its surroundings or came from outside Addis or from the provinces. The surgical department in TAH only admits patients aged above twelve years.

## Results

In all, 15,490 patients were admitted to THA during the study period. Of these, 5,353 (34.6%) were admitted to the surgical wards, 3968 (74.1%) being elective cases. The overall male to female ratio was 1.7:1. The sex ratio was 1.4:1 and 3.1:1 for elective

**TABLE 1** Surgical admissions to TAH, 1994-1997

Disease	System		Elective		Emergency		Total (%)
	M	F	T	M	F	T	
G I T	711	722	1433	493	196	689	2122 (39.6)
G U	859	170	1029	42	9	51	1080 (20.1)
Endocrine	100	466	566	2	3	5	571 (10.7)
Neurosurg.	241	95	336	306	55	361	697 (13.0)
Cardiothor.	70	30	130	80	13	93	193 (3.6)
Perianal	102	27	129	2	1	3	132 (2.5)
Vascular	55	26	81	4	0	4	85 (1.6)
Plast/Recons	178	110	288	33	38	71	359 (6.7)
Polytrauma	3	3	6	88	20	108	114 (2.1)
<b>TOTAL</b>	<b>2319</b>	<b>1649</b>	<b>3968</b>	<b>1050</b>	<b>335</b>	<b>1385</b>	<b>5353 (100)</b>

**TABLE 2** The ten top diseases of surgical admissions at TAH, 1994-1997

Diagnosis	No of patients	%
1 Cholelithiasis/ cholecystitis	550	10.3
2 Multinodular goitre	327	6.1
3 B.P.H	286	5.3
4 Gastric outlet obstruction (PUD)	265	4.9
5 Appendicitis	258	4.8
6 Head injury (unspecified)	246	5.0
7 Intestinal obstruction	229	4.3
8 Nephrolithiasis	223	4.2
9 Urethral stricture	133	2.5
10 Oesophageal carcinoma	114	2.1
Others	2722	50.8
<b>TOTAL</b>	<b>5353</b>	<b>100.0</b>

**TABLE 3** GI causes of surgical admission at TAH 1994-1997

Diagnosis	No of patients	%
1. Cholelithiasis/ cholecystitis	550	25.9
2. Gastric outlet obstruction (PUD)	265	12.5
3. Appendicitis	258	12.2
4. Intestinal obstruction	229	10.8
5. Oesophageal carcinoma	114	5.4
6. Abdominal trauma	102	4.8
7. Other GI diseases	604	28.4
<b>TOTAL</b>	<b>2122</b>	<b>100</b>

and emergency cases respectively. Table 1 shows the reasons for these admissions.

Gastrointestinal (GI) and endocrine diseases accounted for 76.3% of the elective surgical admissions. GI, neurosurgical and polytrauma cases comprised 1158 (83 %) of all emergencies. Females suffered from endocrine diseases more than males. Table 2 shows the top ten surgical diseases diagnosed at TAH. Cholelithiasis (10.3%), multinodular goitre (6.1%), benign prostatic hypertrophy (BPH) (5.3%) and gastric outlet obstruction (4.8%) made up 26.7% of all surgical admissions.

The majority of elective (61%) and emergency cases (68%) came from Addis Ababa while 19% of elective patients and 22% of emergencies were from around Addis Ababa. Twenty percent of elective patients and 10% of the emergencies resided in the provinces.

GI conditions made up 39.6% of all surgical admissions. Of these 36.1% were elective patients. GI admissions accounted for 49.7% of emergencies. The most common GI emergencies were appendicitis (37.4%), intestinal obstruction (33.2%) and abdominal trauma (14.8%). The GI mortality rate was 7.3% (Table 3 ).

Urological admissions contributed 20.2% of all surgical admissions. There were 22 deaths due to urological causes, accounting for 5.2% of the surgical deaths (Table 4).

**TABLE 4** Genitourinary surgical admissions to TAH 1994-1997

Diagnosis	No of patients	%
1 B P H	286	26.5
2 Nephrolithiasis	223	20.6
3 Urethral stricture	133	12.3
4 PUJ-obstruction	104	9.6
5 Urologic tumour	94	8.7
6 Ureterovesicolithiasis	61	5.6
7 Others	179	16.6
<b>TOTAL</b>	<b>1080</b>	<b>100.0</b>

Endocrine diseases accounted for 10.7% of all surgical admissions and 2.1% of the surgical deaths. Multinodular goitre and breast carcinoma made up 75.5% of the endocrine diseases.

There were 697 neurosurgical cases or 13% of the admissions, of whom 361 (51.8%) were emergencies. Head injury accounted for 246 cases, 35.3% of all neurosurgical admissions. The mortality rate was higher for the neurosurgical emergencies (36.6%) than for elective patients (4.8%).

Malignant neoplastic diseases constituted 21.5% of all surgical admissions and 63.7% of the deaths among the elective cases.

Overall, there were 427 deaths during the period under review, giving a mortality rate of 8%. For the emergency cases, 292 (21.1%) deaths occurred from 385 admissions. The elective mortality was 135 (3.5%) deaths from 3968 admissions.

## Discussion

In our study, surgical admissions constituted 34.6% of all TAH admissions. In Tanzania, the rate of surgical admissions was reported to be 12%, but this included the general paediatric cases<sup>3</sup>.

Although TAH is a tertiary institution meant for managing special referred cases, the majority of admission were simple or common problems that could have been managed in secondary level hospitals.

In our study, the number of cardiothoracic and vascular disease cases was low which might have been due to the fact that TAH lacked specialized services in these areas. The reason for the higher incidence of neurosurgical admissions in males than females may be attributed to the fact that men are also more often involved in accidents<sup>3</sup>.

During the period under review, appendicitis accounted for 35.4% of the GI admissions. In Gonder, Ethiopia, Katisso and Messele<sup>4</sup> noted that acute appendicitis accounted for 17.32% of emergency abdominal operations.

Only 17 (18.3%) of the 93 hernias admitted to TAH presented as emergencies and constituted 6.9% of

cases of intestinal obstruction seen. In Khartoum hernias were reported to be the commonest cause of bowel obstruction, accounting for 27.7% of cases, followed by adhesions (21%)<sup>5</sup>.

Only 6.5% of our patients were aged 65 years and above. The commonest pathology in this group was benign prostatic hypertrophy (BPH) which comprised 41.5% of admissions in this age group. In Nigeria, Nmadu<sup>6</sup> found that only 2.6% of surgical patients were above 60 years and, as in this study, the commonest pathology was BPH which accounted for 21.7% of this group.

The overall surgical mortality of 8% was not markedly different from that of 6% reported in

Tanzania<sup>3</sup>. As expected, the mortality was higher for emergencies than it was for the elective admissions.

### References

- 1 Geilford M. The pattern of diseases in Africa and Western way of life. *Tropical Doctor* 1976 6;173-9.
- 2 WHO. International classification of diseases. 1975. (1977 Revision)
- 3 Hiza PR Surgical admission of Muhimbili Hospital, 1971. *East Afr Med J* 1974 51;339-61.
- 4 Kattiso B, Messele G. Acute appendicitis in Ethiopia. *East Afr Med J* 1996 73 : 251-4.
- 5 Ahmed ME. Acute abdomen in Khartoum. *East Afr Med J* 1986 63;850-2.
- 6 Nmadu PT. The pattern of geriatric surgical admissions in Zaria, Nigeria. *East Afr Med J* 1994 71;146-8.