PATTERNS OF ADMISSION AND MORTALITY OF PATIENTS ADMITTED TO SURGICAL INTENSIV CARE OF TIKUR ANBESSSA SPECIALIZED TEACHING HOSPITAL

DEPARTMENT OF ANESTHESIOLOGY

COLLEGEOF HEALTH SCIENCE

ADDISS ABABA UNIERSITY

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Full Title of the Research Project------- PATTERNS OF ADMISSION AND MORTALITY OF PATIENTS ADMITTED TO SURGICAL INTENSIVE CARE OF TIKUR ANBESSSA SPECIALIZED TEACHING HOSPITAL

TYPE OF STUDY – RETROSPECIVE DESCRIPTIVE OBSEERVATIOAL STUDY OF ALL PATIENT ADMITTED TO SICU OF TASTH FROM SEPTEMBER11, 2012 -SEP112013 [MESKERM1, 2005 TO PAQUME5 2005E.C]

Study area------Tikur Anbessa Specialized teaching Hospital SICU,

Addis Ababa, Ethiopia

Total Cost-------8891birr

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List of Abbreviation

AAU	Addis Ababa University
E.C	Ethiopian Calendar
ICU	Intensive Care Unit
MICU	Medical Intensive Care Unit
MR	Mortality Rate
PACU	Post Anesthetic Care Unit
SD	Standard Deviation
SICU	Surgical Intensive Care Unit
TASTH	Tikur Anbessa Specialized Teaching Hospital

Table of Contents

Table of contents Page Number

Abstract

Critical patient have been admitted to SICU throughout the year since its establishment in the yr. However there is no study up to date that was done to determine admission pattern and outcome of patients. With only six beds at hand and establishment of the new ICU, it's essential to know which patients are being admitted and their outcomes. Thus the aim of this study is to describe type of patient admitted to SICU of TASTH and their outcome.

Back Ground

TASTH is one of the largest referral and teaching hospital in Ethiopia accommodating referred patients from all over the country. SICU of TASTH is one of the two public SICU in Addis Ababa and the only ICU for neurosurgical patients. SICU admits more than 200 patients per year with only six beds at hand. [1] Not many researches could be found about the characteristics and mortality of patients admitted to SICU.

Objectives

The main objective of the study these study is to describe the characteristics and mortality of patients admitted to SICU of TASTH.

Methodology

Retrospective Descriptive Observational study of all patients admitted to SICU of TASH from Meskerem 1, 2005 to Paqume 5, 2005.[September 11,2012 to September 10,2013]

Result

The highest percent of admission was postoperative followed by respiratory compromise and circulatory compromise. Patient admitted to SICU ranged from 1 to 89 years of age with the median age being 30 the average age at admission was 33.3. There were higher admission rate of male than female (40.1% and 59.1% respectively). Majority of patient were from AA with 43.8% then Oromia 30.3 the SNNP 12.6%. Highest admission was observed from patients in neurosurgical department accounting 32 %. Cardiothoracic also have high admission 29% but low mortality (3%) in the SICU. The mortality rate was 31.5% .The average SICU stay in our study was 5.76 days. Of 30.9% cases which were trauma related RTA accounted for 15.2% of the patient followed by assault 6.2% and fall down 4.5%. From these trauma patients 40% of RTA patient had concomitant pneumonia and 48% of RTA patients died (13 out of 27). Mechanical ventilator was used by 28.1 % of the patients' during their SICU stay. Average day

spent on mechanical ventilator by these patients was 1.9 with minimum 1 to maximum of 45 days **.**Ceftriaxone is the commonest antibiotic prescribed.

CONCLUSION

There is poor documentation and chart keeping with many cards missing. There is no proper guideline on admission criteria which should be organized and utilized. Mechanism like computerization of data records should be used to avoid missing or losing of charts. A person should be assigned on for making sure proper monitoring of documentation should be there. Many researches have to be done to improve the outcome of patients in ICU as well as to look for gaps in patient management. Much work has to be done in setting up new ICU in the other regions and even in Addis Ababa. There should be center for control of antibiotic resistance and much more study needs to address of antibiotic usage in TASTH

Work Plan and Budget

The study was conducted from August to October 2014. The total cost of the study will

be 8,891.00birr.

Introduction

Intensive care unit is service for patients with potentially recoverable disease who can benefit from more detailed observation or treatment than generally available in the standard wards, and department. High dependence unit is a unit for patients that do not require intensive care but needs more care than general ward. At TASTH, which is the largest referral hospital in Ethiopia, there is only ICU but no high dependency unit. However, the new ICU which is being designed is expected to contain 12 high dependence units. The current, ICU constitutes of six medical and six surgical ICU. The MICU is run by internal medicine and SICU by anesthesiology department. There is no intensivist in the country and basically ICU is run by these two departments.

Since establishment SICU admits more than 200 patients per annum. (1) It accommodates those patients who need intensive monitoring post operatively and also critically ill patients from all the other departments and all over the country. It is the only available SICU for patient with neurosurgical cases. It contains six beds only with patient to nurse ratio 1:2 day time and 1:3 during duty hours. Currently patient to monitor ratio is 1:1, this was not the case two years back. However this ratio might be misleading since equipment failure and malfunction and maintenance problem is a daily challenge in the SICU. The monitors used are blood pressure, ECG and pulse oxymeter and one or two temperature monitor. Oxygen cylinder tanks are used in the ICU. Although at times these ventilators might malfunction for different reasons, there are four mechanical ventilators available.

Though there is booklet on admission criteria it is rarely used in admitting these patents. There is no proper guideline in management of these patients too. Admission to ICU is of course important to those who need it. However we should be careful in selecting patients since it comes with side effects like highly resistant bacteria which are more likely to be found than elsewhere in the hospital. Not many studies are done in our setup to identify or characterize our patient and their outcome in the ICU. So it's vital to do studies like this especial at the time of establishment of new ICU to identify those who benefit from ICU admission or not.

Statement of the problem

In resource limited country like ours with only six beds available for SICU, its prudent to have basic understanding of which patients we are treating and the outcome of our treatment. Since its opening many patients have been admitted and treated. However there is no data or study up to date that indicates which category of patients (cardiothoracic, trauma, gynecology,…) constitutes majority of our patients. Which of these patients uses the resource in SICU? How many of them died or if they stayed longer than they should increasing the cost on patient.

Especially with the opening of the new ICU gathering descriptive information on overall aspect of patient is essential to fill in the gap we had with the old SICU come up with better guideline and record keeping system. Demographic data on patient, reasons for admission and the outcome of patients would lay foundation on where we should focus our attention and resource to patients that benefit the most in the new ICU. Moreover become baseline for future research.

Literature Review

Intensive care units differ significantly from country to country and even among different hospital in the same countries. It varies in the structure, personnel and service provided. Some countries have intermediate level unit which is called high dependence unit, other cause of resource scarcity only have one main ICU. An ICU patient has life threatening or potentially life threatening and reversible or potentially reversible multiple organ failure. Their management requires continuous monitoring, point of care diagnostic and complex supportive therapy. High dependency care is level of care in specifically designed and resourced environment which is less than intensive care but more than ward care.

A 2 year retrospective study that was done in Aqaba-Jordan showed that 24% of ICU patient were surgical and 72% of these surgical patient were trauma cases the average length of stay was 2.3days per patient. Only 54% of total admission was appropriate. (2)Mortality in this ICU was 11%.In the USA and UK 51% of surgical admission to ICU are postoperative admission after major elective surgical procedure.(3,4) In UK 75% of ICU admission were discharged to hospital wards,3% sent home with mortality rate of 20-30%.(3,5).

A 10 year retrospective study done in Nigeria about pattern of admission to ICU identified the number one leading cause of admission to be from department of gynecology. And post operative cases made up 62% of the admission and post c-section admission contributed to 65% of these post op cases. Average length of stay was 2.8 _+ 8.1 days.
Mortality from this study was 24%.it also depicted that majority of patient did not require ICU but were admitted cause no bed in the ward.(6)

Preeclampsia and obstetric hemorrhage are the leading causes of obstetric admission to ICU in the western world and Asia (7, 8). There is growing evidence that admission of high risk obstetric patient to ICU is associated with fall in maternal mortality. (9) Some centers have obstetric ICU but most use general ICUs to mange critically ill obstetric patients (7). One of the indicator of maternal morbidity is transfer to ICU (10) .

The only study we could find about admission to SICU in TASTH was prospective study done by Dr Kinfu and DR Gebreyesus which actually focused on those admitted for mechanical support. These study showed total number of patient admitted to be 256 over one year. Otherwise nothing was mentioned about the characteristics of these admitted patient or outcomes of these patents (1)

Objectives

General objectives

- To describe the characteristic of patient admitted to SICU that would help to improve resource utilization in the ICU
- To assess outcomes of patient in SICU

Specific objectives

- To identify percent of patient admitted from different department
- To identify the commonest reason for admission to SICU
- To show length of stay in SICU
- To assess commonest antibiotic and analgesic used in SICU which lay basis for future research
- To pinpoint the commonest concomitant injury in trauma patient
- To assess mortality rate in SICU
- To show usage of mechanical ventilator in the SICU.

Research questions

- What are the characteristics of patient admitted to SICU?
- What is the commonest reason for admission to SICU?
- What is the mortality rate in SICU?

Methods and materials

Study Area and Population

Study Area

The study is going to be conducted in Ethiopia, Addis Ababa, at Tikur Anbessa Specialized Teaching hospital. TASTH is tertiary referral teaching hospital, one of the largest hospitals in Ethiopia located in Addis Ababa, capital city of Ethiopia. It accommodates different departments including department of anesthesiology. The ICU constitutes of MICU and SICU, with total of 12 beds in total.

Study population

All patients admitted to SICU at TASTH over 1year period from September 1, 2005 till 2006 E.C will be included in the study

Study design

Retrospective descriptive observational study of all patients in the Black Lion surgical ICU admitted to SICU over one year period.

Inclusion criteria

All patients admitted to SICU over one year period from September 1, 2005 to 2006 E.C

Exclusion criteria

All patients not included in the inclusion criteria

Data collection and questioner development

Data collection tool: to identify those patient that were admitted to SICU from September 1,2005 to 2006 different logbooks will be looked through .Card number of these patient will be collected from SICU logbook to discharge, SICU acceptance note and death summary. Those missed patient from these chart will be collected from liaison office admission data and postoperative logbook of PACU and nurse's admission logbook in surgery department. Questioner will be prepared which is comprised of demographic data of patient, length o stay in SICU, reasons for admission in SICU, type of antibiotic and analgesic used, for trauma patient concomitant injury, mechanical ventilator used or not, tracheostomy vs no tracheostomy, type of surgery, death will be collected by trained 10 GPs and residents.

Data processing and analysis

Data was entered using SPSS version 21 for cleaning and analysis. Development of data entry templates, data cleaning, processing, analysis and the overall data management was done by the principal investigator with data collectors and biostatistician. Data was summarized and presented in frequency table, summary statistics and graphs.

Data quality assurance

Completeness of Data collection was checked by the PI The principal investigator will monitor overall data collection process. All completed questionnaires will be checked for completeness and consistency during data management, storage and analysis

Ethical consideration

The proposal was reviewed and approved by the research and ethics committee of department of Anesthesiology , AAU. Data collection instrument didnot include names, addresses or any other identifying information about the study participants.

RESULTS AND DISSCUSSION

RESULTS

Commonest reason for admission was immediate postoperative accounting for 62.4% (111 patient from 178) of admission followed by respiratory abnormalities 13.5 %(24 of 178) then circulatory compromise 10.1%(18 patients of 178), others 7.3%(13 of 178 patients) and 7 cases (3.9%) cases were anesthesia related. Admission rate differed from departments to department's .Neurosurgery utilization of SICU ranked highest making 32.0% of the admission. With only 3% difference from Cardiothoracic Surgery (29.2%) followed by General Surgery 17.4% of the admission. Gynecology and internal medicine each accounts for 4.5% admission to SICU. Others department's together accounts for 9% admission. Patient admitted to SICU ranged from 1 to 89 years of age with the median age being 30 the average age at admission was 33.3 with standard deviation of +- 19.22 .53 of the patient out of 178 were in the group 21 to 30 followed by 30 patients from 11 to 20 accounting for 83 of patients (47% f the patients).Those in the age group 21 to 40 had more association with trauma than the other age group however the association was not significant with p value of 0.45which is insignificant. The age group >50 and those 21 to 30 had noticeable high number of death [16/54 and 15/54 respectively though no significant association between age and mortality (p0.46). There were higher admission rate of female than male (40.1% and 59.1% respectively however no significant association between sex and mortality (p value was 0,334).

Highest admission was observed from patients in neurosurgical department accounting 32 %. Cardiothoracic also have high admission 29% but low mortality (3%) in the SICU. General surgery and neurosurgery patients had high mortality compared to others 54% and 40.3% rspectively.23 out of 52 admitted cardiothoracic patients had epidural and only one out of 31 gynecology case had epidural. Patient were admitted from all over the country as TASTH is tertiary hospital in these study majority of patient were from AA with 43.8% then Oromia 30.3 the SNNP 12.6%. The average SICU stay was 5.76days with SD of 8.93. the SICU stay ranged from minimum of 1 day to maximum of 60days. With median stay of 3days.the mode being 2days.There was 31.5% mortality rate in our SICU.

Ceftriaxone alone was commonest used antibiotic for patient admitted to SICU followed by combination of ceftriaxone and metrondazole 17 out of 178 used Vancomycn and Ceftazidime. Others that were used were though insignificant Cloxacilin 2 patient's Ciprofloxacilin 3. The commonest analgesic being prescribed is Tramadol 99 out of 178 followed by Pethedine 74 patients then Diclofenac 64 and Paracetamol 33 out of 177 patients. Mechanical ventilator was used by 28.1 % of the patients' during their SICU stay. 5% of patients had no documentation whether if they were on mechanical ventilator or not. Average day spent on mechanical ventilator by these patients was 1.9 with minimum 0 to maximum of 45 days. Those patients who were admitted for immediate post operative monitoring accounted for 62.4% of all admission ,of these 49.4% were elective and 21.3% were emergency post operative patients.

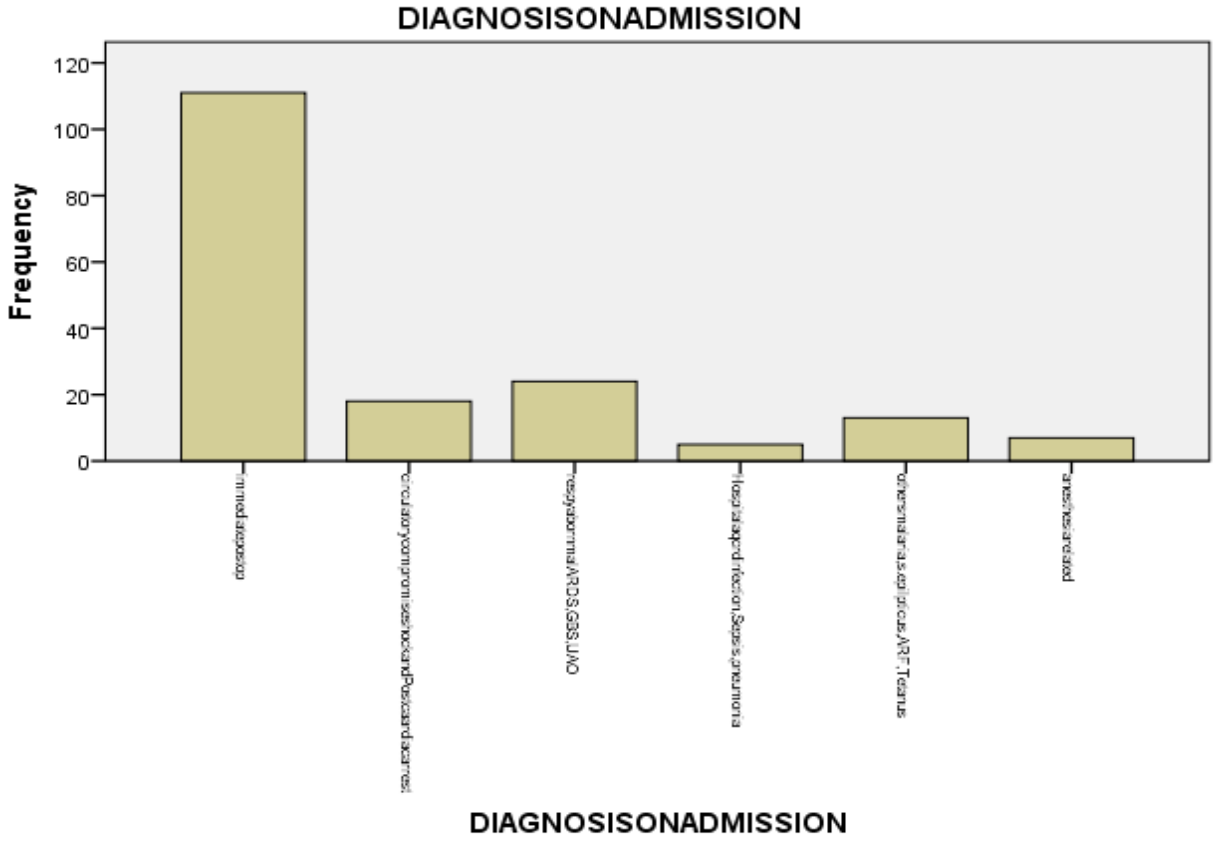
From total admission 69.1% of patient had no association with trauma. However from the 30.9% cases which were trauma related RTA accounted for 15.2% of the patient followed by assault 6.2% and fall down 4.5%. From these trauma patients 40% of RTA patient had concomitant pneumonia and 48% of RTA patients died(13 out of 27or). It was also observed that 2% of the RTA patient had concomitant trauma either to the chest or abdomen or limb or head and neck. 2 out of 8 assault patients had concomitant trauma and 4 out of the 8 fall down accident had it too. Of the trauma cases that had head injury 27 out o 49 (55.1%) had severe head injury with GCS of <or= to 7.1, 4% had moderate head injury and 20% had mild head injury.14 out of 27 (51.8%) severe head injury patient died and 2 out of the 10 mild head injury patient died.9 out of 27 severe head injury patients had concomitant pneumonia while 3 out of 10 who had mild head injury had concomitant pneumonia. There was 10% tracheotomy rate in the SICU .The readmission rate in SICU was 0.6%.

DISCUSSION In the USA and UK 51% of surgical admission to ICU are postoperative admission after major elective surgical procedure.(3,4).In our research commonest reason for admission was immediate postoperative accounting for 62.4% (111 patient from 178) of admission followed by respiratory abnormalities necessitating mechanical ventilator or observation due to impending respiratory failure accounted for 13.5%(24 out of 178 patients) then circulatory compromise which includes different types of shock plus post cardiac arrest patient was 10.1%(18patients), others like status epileptics, malaria, DKA, ARF, patents who needs monitoring for various reason excluding post operative patients accounted for 7.3%(13) and 7of the patients(3.9%) were anesthesia related. Patient considered as anesthesia related were those who had delayed awakening post operative monitoring due to cardiac problem, intra operative complication requiring postoperative follow up and post operative respiratory failure. On the other hand a 10 year retrospective study done in Nigeria about pattern of admission to ICU identified post operative cases made up 62% of the admission and post c-section admission contributed to 65% of these post op cases. Our study also showed that those patients who were admitted for immediate post operative monitoring accounted for 62.4% of all admission, of these 49.4% were elective and 21.3% were emergency post operative patients. While in the USA and UK 51% of are postoperative admission after major elective surgical procedure (3,4). This shows that in fact most of our patients are high dependence unit rather than ICU.

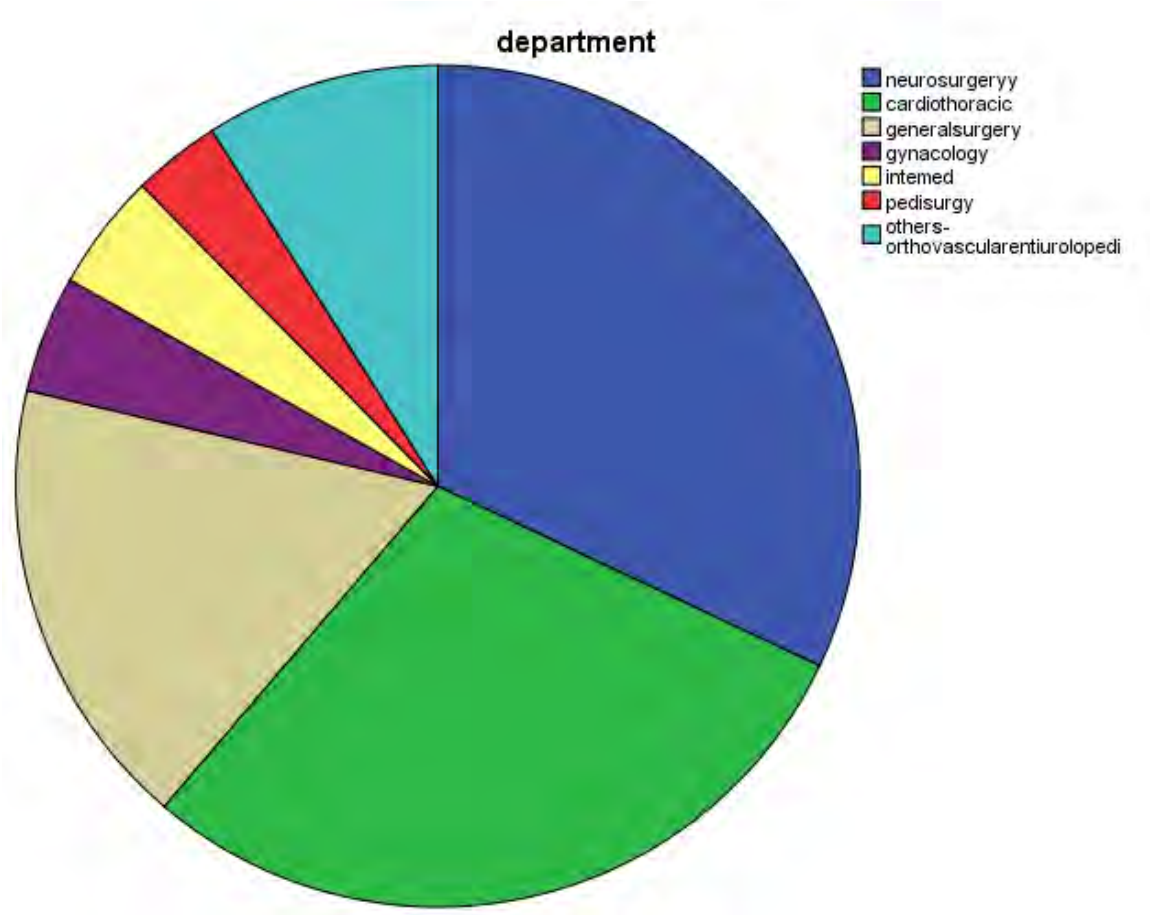
DIAGNOSISONADMISSION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	immediatepostop	111	62.4	62.4	62.4
	circulatorycompromiseshockandPostcaardiacarrest	18	10.1	10.1	72.5
	respyabornmalARDS,GBS,UAO	24	13.5	13.5	86.0
	Hospitalaqcrdinfection,Sepsis,pneumonia	5	2.8	2.8	88.8
	othersmalaria,s.epilpticus,ARF,Tetanus	13	7.3	7.3	96.1
	anesthesiarelated	7	3.9	3.9	100.0

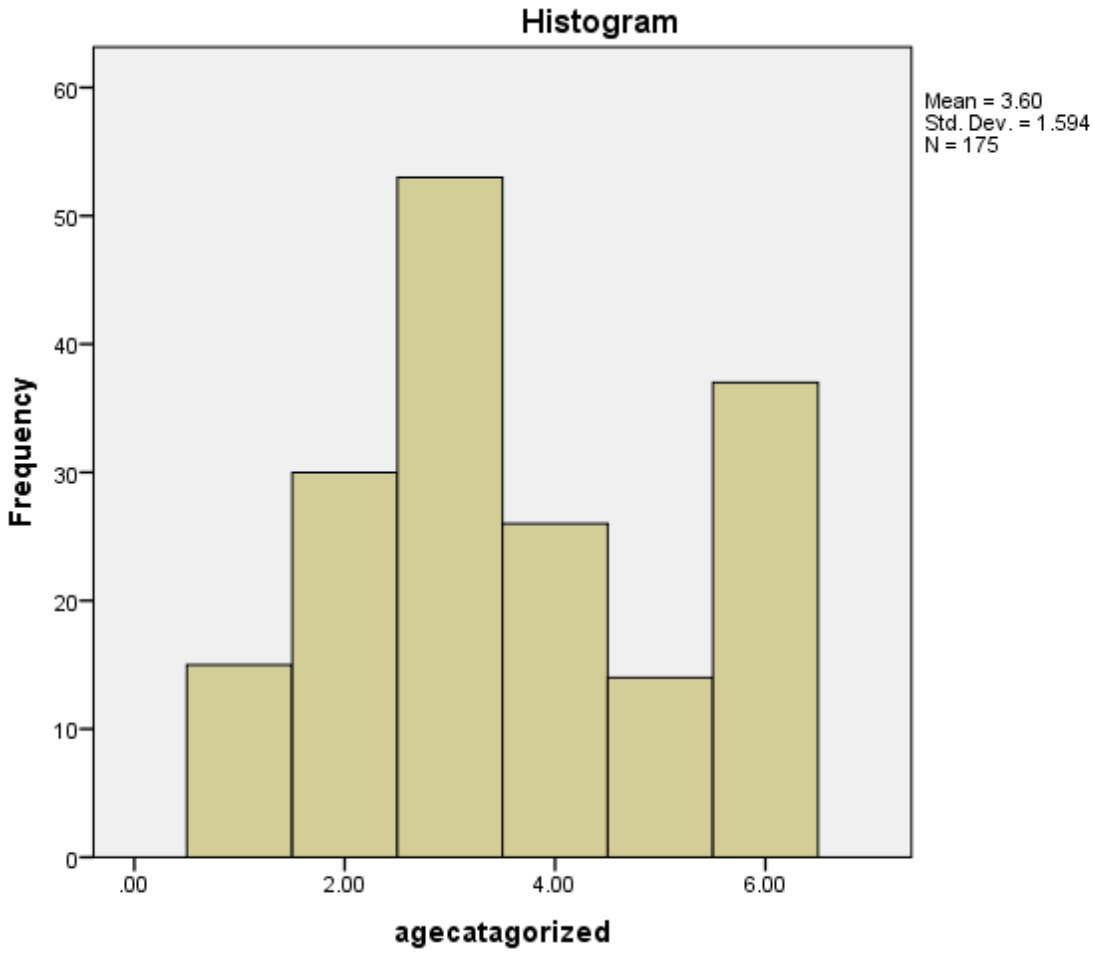
Total	178	100.0	100.0	



Admission rate differed from departments to departments and from institution to institution. A 2 year retrospective study that was done in Aqaba-Jordan showed that 24% of ICU patient were surgical and 72% of these surgical patient were trauma cases. A 10 year retrospective study done in Nigeria about pattern of admission to ICU identified the number one leading cause of admission to be from department of gynecology .However the case in our department showed different result. Neurosurgery utilization of SICU ranked highest making 32.0% of the admission. With only 3% difference from cardiothoracic surgery (29.2%) followed by general surgery 17.4% of the admission. Gynecology and internal medicine each accounts only for 4.5% admission to SICU. The others departments (pediatrics, ENT, Orthopedics and Vascular surgery together accounted for 9% admission. The highest number for these two departments in our study could be due to the fact all operations undertaken by these department and patients with these conditions are referred to TASTH as it the only public tertiary hospital for cardiothoracic patients with better equipped (mechanical ventilator and invasive monitoring) and staffed (anesthesiologist ,cardiothoracic and neurosurgeons) ICU.



Patient admitted to SICU ranged from 1 to 89 years of age with the median age being 30 the average age at admission was 33.3 with standard deviation of +- 19.22 .53 of the patient out of 178 were in the group 21 to 30 followed by 30 patients from 11 to 20 accounting for 83 of patients (47% f the patients).Those in the age group 21 to 40 had more association with trauma than the other age group however the association was not significant with p value of 0.45 which is insignificant. The age group >50 and those 21 to 30 had noticeable high number of death [16/54 and 15/54 respectively though no significant association between age and mortality (p0.46). There were higher admission rate of female than male (40.1% and 59.1% respectively) however no significant association between sex and mortality (p value was 0,334).



1 stands for Age 1 to 10, 2 stands for Age 11-20yr, and 3 stands for Age 21-30, 4 stands for 31-40, and 5 stands for 41-50, 6 stands for >50yrs.

Statistics

age

N	Valid	175
	Missing	3
Mean		33.6571
Median		30.0000
Mode		30.00
Std. Deviation		19.22125
Skewness		.593
Std. Error of Skewness		.184

agecatagorized * traumaptsyesorno Crosstabulation

Count

		traumaptsyesorno		Total
		yes	no	
agecatagorized	1.00	1	13	14
	2.00	7	23	30
	3.00	18	35	53
	4.00	8	18	26
	5.00	5	9	14
	6.00	9	28	37
Total		48	126	174

agecatagorized * outcomecatagorized Crosstabulation

Count

		outcomecatagorized		Total
		1.00	2.00	
agecatagorized	1.00	5	9	14
	2.00	6	24	30
	3.00	15	38	53
	4.00	8	18	26
	5.00	4	10	14
	6.00	16	21	37
Total		54	120	174

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.029[a]	15	.677
Likelihood Ratio	14.834	15	.463
Linear-by-Linear Association	.277	1	.599
N of Valid Cases	170		

a. 15 cells (62.5%) have expected count less than 5. The minimum expected count is .69.

There were higher admission rate of male than female (40.1% and 59.1% respectively however no significant association between sex and mortality (p value was 0,334).

sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	106	59.6	59.9	59.9
	female	71	39.9	40.1	100.0
	Total	177	99.4	100.0	
Missing	System	1	.6		
Total		178	100.0		

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.731[a]	1	.393		
Continuity Correction[b]	.476	1	.490		
Likelihood Ratio	.736	1	.391		
Fisher's Exact Test				.414	.246
Linear-by-Linear Association	.726	1	.394		
N of Valid Cases	176				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.59.

b. Computed only for a 2x2 table

The average SICU stay in our study was 5.76 days with SD of 8.93. The SICU stay ranged from minimum of 1 day to maximum of 60days. With median stay of 3days.the mode being 2days.There was 31.5% mortality rate in our SICU. The study from Aqaba-Jordan the average length of stay was 2.3days per patient. The study from Nigeria showed average length of stay was 2.8 _+ 8.1 days. The low average stay in the Nigeria study was attributed to the type of patient which actually did not require ICU admission rather were admitted cause of no available bed in the ward. The average stay of 5.76 day in our study could be as result of most of the patient being neurosurgical case with trauma history (30.9% of total admission from these 55% had severe head injury since and 40% of RTA cases had concomitant trauma) which might need longer time for recovery and stabilization.

There was 31.5% mortality rate in our SICU which correlates well with the finding in UK and USA. In UK 75% of ICU admission were discharged to hospital wards,3% sent home with

mortality rate of 20-30%.(3,5). Mortality from Nigeria study was 24% which could be explained by the high admission of patient not requiring ICU care to SICU.

outcomecatagorized

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	56	31.5	31.6	31.6
	2.00	121	68.0	68.4	100.0
	Total	177	99.4	100.0	
Missing	System	1	.6		
Total		178	100.0		

1 stands for death , 2 stands for discharge

Though the studies mentioned in the literature review doesn't describe the commonest antibiotics and analgesics used in their set up. This study has found ceftriaxone alone 91 out of 178 patients to be the commonest prescribed antibiotic. Combination of Ceftriaxone and Metrondiazole (46 out o 178) being the second most common antibiotic in usage. These could be explained by the mere fact that most of our admission are post operative for which 24hr post operative antibiotic prophylaxis are ordered. The second most common reason for admission from this same study shows it is respiratory compromise and most of our trauma patient indeed had concomitant pneumonia too which likely would be aspiration pneumonia which might be the reason for the second common antibiotics used.

In the study done by Dr Gebreyesus and Dr kinfu which was one year prospective study in the 1996 to 1997 showed that 122(47.7%) patient to be o mechanical ventilator with range of 2 to 40 days with mean duration of 5.4 days. However in our study Mechanical ventilator was used by 28.1 % of the patients' during their SICU stay. 5% of patients had no documentation whether if they were on mechanical ventilator or not. Average day spent on mechanical ventilator by these patients was 1.9 with minimum 1 to maximum of 45 days. These differences could be attributed to the design of the two studies where in retrospective studies poor documentation, loss o many cards could falsely give lower percentage of usage..

From total admission 69.1% of patient had no association with trauma. However from the 30.9% cases which were trauma related RTA accounted for 15.2% of the patient followed by assault 6.2% and fall down 4.5%. From these trauma patients 40% of RTA patient had concomitant

pneumonia and 48% of RTA patients died(13 out of 27or). It was also observed that 2% of the RTA patient had concomitant trauma either to the chest or abdomen or limb or head and neck. 2 out of 8 assault patients had concomitant trauma and 4 out of the 8 fall down accident had it too. Of the trauma cases that had head injury 27 out o 49 (55.1%) had severe head injury with GCS of <or= to 7.1, 4% had moderate head injury and 20% had mild head injury.14 out of 27 (51.8%) severe head injury patient died and 2 out of the 10 mild head injury patient died.9 out of 27 severe head injury patients had concomitant pneumonia while 3 out of 10 who had mild head injury had concomitant pneumonia. There was 10% tracheotomy rate in the SICU .The readmission rate in SICU was 0.6%.

Highest admission was observed from patients in neurosurgical department accounting 32 %. Cardiothoracic also have high admission 29% but low mortality (3%) in the SICU, Which could be attributed to high percent of patient in neurosurgery being trauma with concomitant injury and pneumonia and with severe head injury. Patient were admitted from all over the country as TASTH is tertiary hospital and the only tertiary public hospital accommodating many subspecialties like cardiothoracic ,pediatric surgery and neurosurgery in these study majority of patient were from AA with 43.8% then Oromia 30.3 the SNNP 12.6%.

STRENGTH OF THE STUDY

This is the first descriptive study done in the biggest referral hospital in Ethiopia which will lay foundation for many other research ideas. It could also be used as base for doing other research it pinpoints where in ICU we should focus like the highest percent of patient being high dependence unit. It indicates the necessity of setting up of an ICU in other regions and also in Addis Ababa. Usage of antibiotics is shown in this study which emphasizes the importance of guidelines might help in identifying or decreasing unnecessary usage of antibiotic. It is an extensive one looking at different variables.

WEAKNESS OF THE STUDY

Since it is retrospective study it could undermine the number of patients since there is poor documentation and chart keeping like MR was overestimated.

CONCLUSION

The highest percent of admission was postoperative followed by respiratory compromise and circulatory compromise. Patient admitted to SICU ranged from 1 to 89 years of age with the median age being 30 the average age at admission was 33.3. There were higher admission rate of male than female (40.1% and 59.1% respectively). Majority of patient were from AA with 43.8% then Oromia 30.3 the SNNP 12.6%. Highest admission was observed from patients in neurosurgical department accounting 32 %. Cardiothoracic also have high admission 29% but low mortality (3%) in the SICU. The mortality rate was 31.5% .The average SICU stay in our study was 5.76 days. Of 30.9% cases which were trauma related RTA accounted for 15.2% of the patient followed by assault 6.2% and fall down 4.5%. From these trauma patients 40% of RTA patient had concomitant pneumonia and 48% of RTA patients died (13 out of 27). Mechanical ventilator was used by 28.1 % of the patients' during their SICU stay. Average day spent on mechanical ventilator by these patients was 1.9 with minimum 1 to maximum of 45 days .Ceftriaxone is the commonest antibiotic prescribed.

There is poor documentation and chart keeping with many cards missing. There is no proper guideline on admission criteria which should be organized and utilized. Mechanism like computerization of data records should be used to avoid missing or losing of charts. A person should be assigned on for making sure proper monitoring of documentation should be there. Many researches have to be done to improve the outcome of patients in ICU as well as to look for gaps in patient management. Much work has to be done in setting up new ICU in the other regions and even in Addis Ababa. There should be center for control of antibiotic resistance and much more study needs to address of antibiotic usage in TASTH

Dissemination and communication of results

The thesis will be presented to the department o anesthesiology, AAU, as a partial fulfillment of the requirement for postgraduate degree in Anesthesiology. The Results will be disseminated to the scientific community through seminars, workshops, and conferences of health professionals association and publications in peer-reviewed scientific journals

Work plan

Activities	Responsible body	Time						
		July- August				September- october		
Topic selection	PI	July 25- august 8						
Proposal development	PI		August 9 -12					
Ethical clearance	Research committee of anesthesiology			August 13 - 30				
Data collection	Residents and GPs				August 31- September 23			
Data entry	Data collectors					September 24- 30		
Data analysis	PI						September 24- 30	
Presentation of findings	PI							October 5

Budget breakdown

Personnel cost	Qualification	Number	Duration	Price/patient	Total cost
Card collection	Diploma	250	-	3br/178patient	540br
Data collectors	Resident/GP	10	-	30br/178pt	5340br
Data entry	Diploma	2	-	6br/178	1068br
Data analysis	MPH	1			7880br
Subtotal cost					25,500br
Logistic costs	unit	Quantity	unit/cost		total
pens	Pack	3	3br		6br
Pencils	Pack	6	1br		6br
Eraser	Number	0	1br		0br
Sharpener	number	0	2br		0br
Flash	Number	2	200br		400br
CD	Number	3	7br		21br
Photocopy	Pages	684	0.7		478.8
Binding	Number	4	25br		100br
subtotal					1011.8br
Total					8,891.8br

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