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ORIGINAL ARTICLE

Expenditure incurred by HIV/AIDS patients receiving free antiretroviral therapy (ART) in a tertiary health facility in North-Western Nigeria.

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ABSTRACT:
Introduction: HIV/AIDS is by far the most prominent emerging infectious disease, causing unsurpassed morbidity and mortality than its peers. Free ART was introduced by World Health Organization as part of universal access to ART. Despite this, patients still incur out-of-pocket expenses when accessing it. **Objective**: To assess the additional out-of pocket expenditure incurred annually by patients receiving free ART in a Tertiary Health Facility. **Method**: A cross-sectional descriptive study involving 85 HIV positive patients receiving free ARTS at Ahmadu Bello University Teaching Hospital, Nigeria. Respondents were selected by simple random sampling. Data was collected using standard structured interviewer-administrated questionnaire. SPSS statistical package was used for data analysis. **Result**: Most of the respondents (45.6%) are in the 30-39 years age group and are mostly females (65.9%) residing in Zaria (51.8%). They visit the clinic at least once a month, spending money on feeding, transportation, substitute labour, non-ART drugs, among others. On average, such expenditure amounts to $200.52 annually, while their average annual income is $1751.98. There was a statistically significant association between monthly income and occupation in respondents who feel regular clinic attendance is difficult to sustain financially ($X^2 = 45.682$, df 30, P=0.033). **Conclusion**: HIV/AIDS patients receiving free ARTS incur significant out-of-pocket expenses while accessing treatment. There is need for the program to move beyond free ARTS and introduce some financial relief such as Government subsidy and an 'AIDS Allowance' for the patients (especially the low income ones).

Key words: Expenditure, free, antiretroviral therapy, HIV/AIDs, patients, health facility.

INTRODUCTION

HIV/AIDs is by far the most prominent emerging infectious disease, causing unsurpassed morbidity & mortality than its peers. Of the 33.3 million people currently living with it, 68% reside in sub-Saharan Africa. Free ART was introduced by WHO in 2006 as part of universal access to ART.[1] Despite this, patients still incur out-of-pocket expenses while accessing it.

Throughout the world, both the fee and non fee costs of obtaining medical care have been found to limit access to acute care and adherence to chronic care.[2] In Tanzania, transportation costs to the ART centers have been identified as a major barrier to accessing antiretroviral therapy by patients in addition to low quality of care rendered at those sites.[3] In Indonesia, where Antiretroviral drugs (ARVs) are provided free of charge to patients, they must pay for other services including VCT, medical consultations and examinations, laboratory monitoring and drugs other than ARVs. Additionally, there are opportunity costs associated with HIV care, most notably time spent away from work and travel costs.[4] Thus, even though ARVs are free to patients, overall HIV care is not; hence, real and perceived costs might hamper access to therapy. In Benin City, Nigeria, patients needed to pay additional costs for multivitamins, prescribed medicines and transportation to the treatment centre with consequences to adherence to therapy.[5]

With the burden of HIV/AIDs worldwide, access to antiretroviral therapy is necessary to prolong life, reduce the number of AIDs-related deaths and for prevention (as in prevention of

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mother to child transmission (PMTCT) and post exposure prophylaxis). Access to treatment is also necessary to promote public health and safeguard economic and social development.[6] In Taiwan, a programme guaranteeing universal ART access was implemented in 1997, after which the estimated rate of HIV transmission decreased by more than half. [7] In this instance, ensuring access to antiretroviral therapy altered the course of the epidemic. At the end of the year 2008, more than 4 million people in low-and middle-income countries had access to HIV treatment, compared to 3 million in the previous year. However, despite considerable progress, global coverage remains low: as of 2008 only 42% of those in need of treatment had access to ART. The situation is equally poor in sub-Saharan Africa where out of the 6.7 million people needing ART in 2008, only 2.9 million (44%) were receiving it. [8] This study was aimed at assessing other expenditure incurred by HIV/AIDs patients receiving free ART in ABU Teaching Hospital, Zaria, Nigeria.

MATERIALS AND METHODS.

The study was conducted at Ahmadu Bello University Teaching Hospital's AIDs treatment clinic (also known as Nasara clinic or PEPFAR Clinic). The following services are provided free of charge to HIV/AIDs patients at the clinic: antiretroviral drugs, laboratory investigations, PMTCT services, HIV counseling and testing, Tuberculosis care, entrepreneurship development, economic empowerment, capacity building and development with infrastructural support. The descriptive, cross sectional study consisted of 85 HIV/AIDs patients receiving treatment at the clinic. The sample size was obtained using the formula for descriptive study and prevalence from a previous study in South Africa, where 95% of the patients incurred costs on visit day.[9] Respondents were selected by simple random sampling using the clinic register as a sample frame. Data collection was conducted using a standard interviewer administered questionnaire with open and close-ended questions. The questionnaire was structured into sections to capture information on the socio-demographic profiles and monthly expenditure incurred by patients while receiving free ART at the clinic. It was administered over a period of 2 weeks. The questionnaire was pre-tested among HIV/AIDs patients receiving free ART at Barau Dikko Specialist Hospital, a similar Health facility in another Local Government Area within the same State. Data analysis was computer-aided using SPSS statistical package (version 17). Descriptive statistics such as frequency distribution and cross-tabulation were used. Chi-square(X^2) test was used to explore the association between variables such as monthly income and feeling that regular clinic attendance is difficult to sustain due to financial constraint. A p-value of 0.05 or less was considered significant. Results are presented in tabular form. Ethical clearance for the study was obtained from Ahmadu Bello University Teaching Hospital's ethical committee. Informed verbal consent was obtained from the respondents.

RESULTS

A total of 85 HIV positive patients receiving free ART at Ahmadu Bello University Teaching Hospital participated in the study.

Table 1 shows the socio-demographic profile of the respondents. Most of the respondents (45.6%) were in the 30-39 years age group and are females (65.9%) with 41.2% having tertiary level educational qualifications. Eighty percent of the respondents are or were once married, with 54.1% still married, 20% have been widowed, 5.9% divorced or separated. Only 20% of respondents are single. Most (90.6%) are employed: 37.6% are civil servants, 17.6% are self employed, 15.3% are business persons, 8.2% are private employees, 5.9% each are farmers and students. Only 9.4% of respondents are unemployed. Most of the respondents (82.4%) reside in Kaduna State: 30.6% come from Kaduna City, 51.8% live within Zaria Local Government and Sabon Gari Local Government Areas combined. Only 17.6% reside in neighbouring states like Kastina and Borno state and the Federal Capital Territory, Abuja .

As shown in table 2, most of the respondents (55.3%) were enrolled at the clinic for 3 years or less; 28.2% were enrolled for 4-6 years and 14.1% were enrolled for 7-10 years. Only 2.4% were enrolled for more than 10 years.

Table 3 shows the estimated monthly income of the respondents. Most respondents, 88.4%, earn a steady monthly income: 25.9%

earn less than N10, 000.00 ($65.04); 16.3% earn between N10, 000.00 to N19, 999.00 ($65.04-$130.07); 18.6% earn between N20, 000.00 to N39, 999.00 ($130.08-$195.13), while 11.6% earn more than N50, 000 (>$325.20). Only 10.6% of the total respondents do not have a steady source of monthly income. A significant proportion of respondents (35%), feel that regular clinic attendance is difficult to sustain financially. Most of them, 45%, earn less than N10, 000.00($65.04) per month.

As shown in table 4, average monthly expenditure by patients on transportation, feeding, substitute labour and prescription drugs/food supplements are N913.41 ($5.94); N125.33 ($0.82); N161.18 ($1.05) and N1368 ($8.9) respectively. The total average monthly expenditure is N2, 567 ($16.71).

Table 1 Socio-demographic profile of respondents.

Variable	Frequency (n=85)	%
Age		
<20	4	4.7
20-29	15	17.6
30-39	39	45.9
40-49	15	17.6
50-59	12	14.1
Sex		
Female	56	65.9
Male	29	34.1
Marital Status		
Single	17	20
Married	46	54.1
Divorced/separated	5	5.9
Widow/widower	17	20
Occupation		
Civil servant	32	37.6
Self employed	15	17.6
Farmer	5	5.9
Business man/woman	13	15.3
Private employee	7	8.2
Unemployed	8	9.4
Student	5	5.9
Educational Status		
Primary	15	17.6
Secondary	30	35.3
Tertiary	35	41.2
Quranic	5	5.9
Place of residence		
Sabon Gari	20	23.5
Zaria City	10	11.8
Samaru	5	5.9
Shika	8	9.4
Jaji	1	1.2
Kaduna City	26	30.6
Others	15	17.6

Table 2 Distribution of respondents by duration of enrolment (in years) into ART.

No of years on ART	Frequency	%
1-3	47	55.3
4-6	24	28.2
7-10	12	14.1
>10	2	2.4
Total	85	100.0

Table 3 Distribution of respondents by their estimated monthly income and feeling that clinic attendance is difficult to sustain financially.

Monthly income in Naira (U.S. Dollar)	Frequency (n=85)	CADS (n=31)
<10,000.00 (<$65.04)	31(36.5%)	14(45.2%)
10,000.00-19,999.00($65.04-130.07)	14(16.5)	7(22.6%)
20,000.00-29,999.00($13.08-195.12)	16(18.8%)	6 (19.3%)
30,000.00-39,999.00($195.13-260.16)	8(9.4%)	1(3.2%)
40,000.00-50,000.00($260.17-325.20)	6(7.0%)	0(0%)
>50,000.00 (>$325.20)	10(11.8%)	3(9.7%)
Total	85(100%)	31(100%)

$X^2 = 45.682$, df = 30, p= 0.033.
Average monthly income = N22, 447.20 ($146.00). $1 = N153.75 (April 2011).
CADS= Respondent who feel that clinic attendance is difficult to sustain financially

Table 4 Average estimated monthly expenditure on various activities by respondents

Activity	Average monthly amount spent
Transport	N913.41 ($5.94)
Laboratory investigation	N0.00 ($0.00)
Feeding	N125.33 ($0.82)
Substitute labour	N161.18 ($1.05)
Prescription drugs	N1368 ($8.9)
Total	N2567 ($16.71)

DISCUSSION

Most of the respondents were aged between 30 – 39 years (45.9%). This falls within the sexually active age group. Adolescents (15 – 19years) had the lowest distribution of 4.7%. This is contrary to the common fact that they are at higher risk for acquiring sexually transmitted infections for a combination of behavioral, biological and cultural reasons.[10] The low patronage of the tertiary facility by adolescents may be due to low prevalence of HIV among adolescents in the region resulting from increased awareness and use of condoms. Lack of youth-friendly services in the facility may be another reason.

Females are the majority 65.9% of respondents. This is in line with global statistics

of female majority (out of the total of 33.4 million people living with HIV in 2008, 15.7 million are female. This has been described as feminization of the epidemic and it is because women in the study area are more vulnerable to HIV infection. Low condom use, gender inequality and economic disadvantage of women in the region are likely causes. [11]

Married respondent's had the highest number (54.1%), a trend similar to what was documented in other countries.[12-14] However, recent studies have challenged the assumption that marriage is a risk factor.[15] In fact, a study of Demographic Health Survey data from 33 countries concluded that marriage is protective.[16]

Only 15.3% of the respondents live in Shika and Samaru, which are within 10 Kilometers of the antiretroviral clinic. This has financial implications: the farther the distance from the clinic, the higher the transportation cost. This is in contrast to a study in Indonesia where 62% of respondents live within 10 Kilometers of the ART clinic.[4]

Years of clinic attendance is directly associated with financial expenditure. All respondents have been attending the clinic for more than a year. Only 2.4% were enrolled for more than ten years. This could be due to AIDS-related deaths since the median survival time for HIV/AIDS patients in the country is low. [17] In some health centres, the median survival time is as low as 4 days.[18] The low median survival time in the country and other African countries, like Uganda and Tanzania, has been attributed to delayed presentation for HIV management and care. [17,19,20,21]

Divorced respondents have the lowest proportion of 5.9%. This could imply that women are not frequently divorced when diagnosed with HIV in the region. Single and widowed respondents have equal proportion of 20% each. This is contrary to finding in other African countries such as Tanzania where more than 27% of widowed women compared to 2% of singles are living with HIV.[22] It is also contrary to findings in Uganda where widowed individuals are more than six times more likely to be living with HIV than singles.[23]

Farming is the major occupation in the country.[24] However, farmers were the least in number among respondents. This is probably due to a low prevalence of HIV infection among farmers in this region, most of whom are peasant farmers.

The average monthly income of N22, 447.2 ($146) is relatively low for sustenance and care of a life threatening illness. The N913.41 ($5.94) average monthly cost of transportation on clinic visit is lower than the $7.81 (R55) reported in South Africa.[9] However; it is higher than the $4.56 per month spent by patients in Cote d'Ivoire.[25]

The average monthly expenditure on transportation, feeding, substitute labour, and prescription drugs/food supplements is N2, 567 ($16.71) and per annum it amounts to N30, 804 ($200.52). This translates to 11.4% of patient's annual income since the average monthly income is N22, 447.20 ($146.00) [Per Annum = N269.366.4 ($1751.98)].

Health expenditure has been defined as catastrophic if it exceeds 40% of annual income.[26] For patients attending the clinic 5 times (or greater than 5 times) per month, their expenditure will exceed 40% of their annual income. Yet, the above estimates of expenditure by respondents are for a single visit per month, which is the least possible.

A significant proportion of the respondents (36.5%) feel that regular monthly visit to the clinic is difficult to sustain financially. A statistically significant association was noted between their monthly income and occupation($X^2 = 45.882$, df = 30, p = 0.033). This depicts a problem of financial accessibility which needs to be addressed.

One limitation of the study is its relatively small sample size which limits the statistical significance of our findings. However, this should not underscore the importance of the findings.

In conclusion, HIV/AIDS patients receiving free ARTS incur significant out-of-pocket expenses while accessing treatment. There is need for the program to move beyond free ARTS and introduce some financial relief such as Government subsidy and an 'AIDS Allowance' for the patients (especially the low income ones).

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ORIGINAL ARTICLE

Detection Rates of Ziehl-nelseen Staining Technique and Fluoresecnt Microscopy in The Examination of Sputum for Acid Fast Bacilli.

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ABSTRACT:
Background: Tuberculosis is endemic in developing countries but has re-emerged as a public health issue with the coming of Human immunodeficiency virus infection even in the developed world. **Objective:** To compare the detection rates of Mycobacterium tuberculosis in sputum specimens between Ziehl-Neelsen staining technique and Fluorescent microscopy. **Methods:** It was a retrospective study carried out from between June 2010 and May 2011 in a tertiary health centre in North-eastern Nigeria. In the first six months (June 2010-November 2010) detection of *Mycobacterium tuberculosis* was done using the Ziehl-Neelsen (ZN) staining technique and in the last six months (December 2010-May 2011) detection was by Fluorescent-Auramine technique of *Mycobacterium tuberculosis*.**Results:** One thousand four hundred and eighty six (1486) patients were used, with 764(51.4%) females and 722 (48.6%) males. Sixty nine (10.6%) were positive for *Mycobacterium tuberculosis* using the Ziehl Neelsen method while 122 patients (14.4%) were positive for *Mycobacterium tuberculosis* using the Fluorescent Microscopy method p=0.029. **Conclusion:** The six months comparison of the two methods (ZN and FM) showed that the detection rates of acid- fast bacilli in sputum specimens had increased from 10.6% to 14.4 % respectively which is statistically significant.

Key words: Ziehl-Neelsen staining , Fluorescent microscopy, sputum examination.

INTRODUCTION

The negative effects of tuberculosis on society are enormous. It is estimated that nearly one billion people will be infected with tuberculosis (TB), 200 Million will develop the disease and 35 million will die from TB during 2000-2020[1].

Direct microscopic examination for acid fast bacilli (AFB) by Carbol Fuchsin is currently the most widely used microbiological method for the diagnosis and confirmation of pulmonary tuberculosis (PTB), and when Positive defines the more infectious cases[2,3].This method is highly specific, fast and cheap for detecting AFB in sputum. The disadvantage of this method is its low sensitivity that vary from 45%-80% relative to culture[3-7].

The utilization of Auramine 'O' a fluorescent dye instead of Carbol Fuchsin was first proposed in the 1930s[8],but found widespread use in developed countries only about 30 years later after a thorough re-evaluation of the technique using a combination of Auramine 'O' and Rhodamine[9]. A study from Kenya showed superior sensitivity of fluorescent microscopy in comparison with bright field microscopy for low density smears[10]and fluorescent microscopy has proved to be as reliable as bright-field microscopy[11]. The advantage of fluorescence microscopy is the possibility to scan a sputum smear at 250x magnification rather than at 1000x magnification, allowing theoretical reduction of examination time of the same area to one sixteenth as the surface increases by the square of the diameter. Practically the

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examination time is reduced to about 10 fold with Fluorescent compared to bright-field microscopy using a 4-fold different magnification (250xVs 1000x)[12]. The disadvantages of the former include the higher cost of investment and maintenance and the lesser robustness of the fluorescence compared to bright-field microscope[13].

The current study was carried out to compare the detection rates of *Mycobacterium tuberculosis* in sputum specimens between the Ziehl-Neelsen staining technique and fluorescent microscopy at a tertiary health centre in the North-eastern Nigeria.

METHODS

The study was carried out in the department of medical microbiology, Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH), Bauchi, Bauchi State, North-eastern part of Nigeria. The hospital receives referrals from Bauchi State in addition to other neighbouring states including Gombe, Jigawa, Yobe and Adamawa States.

It was a retrospective study carried out from June 2010 - May 2011. In the first six months (June 2010-November 2010) detection of *Mycobacterium tuberculosis* was done using the Ziehl-Neelsen (ZN) staining technique and the last six months (December 2010-May 2011) witnessed the introduction of the Fluorescent-Auramine technique of Mycobacterium tuberculosis detection at ATBUTH and hence patients were tested based on that. Information was retrieved from the laboratory register at the department of medical microbiology of the hospital. Standard method for the Ziehl-Neelsen(ZN) staining technique was used during the procedure,[14] also; Standard method was used for the newly adopted method of Fluorescent Microscopy (FM) using Auramine and Rhodamine dyes.[15]

Descriptive statistics were summarized for patients' demography. The data obtained were analysed using statistical package for social sciences (SPSSTM) computer software version 16.0. Chi-square and Fishers exact test were used to compare the two methods, at 95% confidence interval. P value < 0.05 was considered to be statistically significant.

RESULTS

Majority of the patients tested were females with 764 (51.4%) out of the total number of 1486 patients in the study. The age ranged from 2 years to 90 years with a mean of 35.8 $\pm$1.51 years. Age group of 20-29 years has the highest frequency of occurrence while on the other hand age group 0-9 years has the lowest frequency of occurrence (Table 1).

Sixty nine patients (10.6%) were positive for *Mycobacterium tuberculosis* using the Ziehl Neelsen method while 122 patients (14.4%) were positive for *Mycobacterium tuberculosis* using the Fluorescent Microscopy method (X^2= 4.98,df=1,P=0.029. (Table 2).

However, no significant relationship was found between the age or sex of the patients in detecting *Mycobacterium tuberculosis* by ZN method or the FM method (X^2 =1.000, df =1, P= 0.373; X^2 =0.011, df =1, P=0.922).

Table 1: Some Demographic characteristics of the patients studied

Age Group (years)	**Frequency**	**(%)**
0-9	14	0.9
10-19	110	7.4
20-29	385	25.9
30-39	357	24.0
40-49	212	14.3
50-59	132	8.9
60-69	78	5.2
70 and Above	60	4.0
* Adult	138	9.3
Total	**1486**	**100.0**
Sex	**Frequency**	**Percentage**
Male	722	48.6
Female	764	51.4
Total	**1486**	**100.0**

*Was entered as adult with no age specification

Table 2: Positivity of AFB Detection Using The Ziehl-Nelseen Method Versus Fluorescent Microscopy.

		Results			
		Positive	Negative	Total	PRE.
Methods	Ziehl Neelsen Technique	**69**	579	648	**10.6%**
	Fluorescent Microscopy	**122**	716	838	**14.4%**
Total		191	1295	1486	12.8%

X^2 = 4.98, df=1, p=0.029.

DISCUSSION

There was no statistically significant difference between the two methods based on gender. This is in contrast to studies by Desai et al[16] and Bhanvalikar et al [17] who found the prevalence rates of TB to be higher in males than females in India. The lack of significant difference between the sexes found in this study might be due to the fact that both sexes had similar risks of contracting the disease, or it might be due to chance occurrence alone.

Sputum positivity was higher in the age groups of 20- 39years than other age groups. These are the productive individuals in the society and they are more vulnerable to the tuberculosis infection. This finding was similar to the findings of several other workers[10,18-20.]

Our study showed a detection rate with ZN of 10.6% while that of FM was 14.4%. This reached statistical significance. Many comparative studies.[19-22] have shown the reliability of FM over ZN method in the diagnosis of pulmonary tuberculosis. FM was found to be more sensitive in terms of detection of mycobacterium because it is done under lower power magnification (400x) compared to ZN method in which 1000x magnification is used. So, FM is less time consuming and allows a large number of sputum specimens to be examined in a given time. The importance of increase in detection rate of *Mycobacterium tuberculosis* from 10.6% to 14.4% using ZN and FM methods respectively cannot be over emphasized. It shows that there is improvement in the laboratory diagnosis of pulmonary tuberculosis at ATBUTH Bauchi after acquiring fluorescent microscope. This will help in commencing the treatment of tuberculosis in time. The extrapolation of the above statements is that there would be reduction in terms of infectivity, morbidity and mortality due to this deadly scourge.

Our study has some limitations. The study was done over a short duration of one year with six months allotted to each method. In some cases age was entered as adult with no specific value thereby hampering categorization. We recommend that further studies should be carried out simultaneously on patients' samples to find out the actual sensitivity and specificity of the tests.

Based on our findings we recommend that, whenever possible fluorescent microscopy should be adopted in tertiary, secondary or even comprehensive health centres in processing specimens for acid- fast detection in suspected cases of tuberculosis for better management of the disease. This would go a long way in reducing the burden and consequences of this deadly scourge.

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ORIGINAL ARTICLE

Testicular Torsion as seen in University of Maiduguri Teaching Hospital, North Eastern Nigeria.

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ABSTRACT:
Background: Testicular torsion is one of the commonest urological emergencies affecting adolescents and young adults worldwide. Favourable outcome depends on severity and timely intervention. Delayed presentation, missed diagnoses and prolonged reaction time are associated with high testicular loss due to gangrene while the reverse is associated with high testicular salvage rate. **Materials and Methods:** We retrospectively reviewed all cases of testicular torsion in University of Maiduguri Teaching Hospital [UMTH] between January 2008 and December 2011. Information was obtained from clinical notes and laboratory investigations. **Results:** A total of 56 patients were studied. The age ranged from 11-35 years with a mean of 23± 17.5 years. Majority (91%) of the patient were in their second and third decades. Most, 41 (73.21%) presented during the cold harmattan season (November to February). Only 11 (19.64%) presented within golden 4 hours from onset of symptoms, 30 (53.56%) between 4 to 24 hours while 15(26.79%) presented beyond 24 hours. Twenty-two (39.29%) had scrotal exploration within 4 hours of presentation to the emergency unit, while 26 (46.43%) within 4 to 12 hours, and 8 (14.29%) had delay beyond 12 hours. The study found associated anomalies in the torted testes which includes horizontal lie 9(13.85%), long mesochium 5(7.69%), hydrocele 4 (6.15%), and 1(1.54%) each of hernia, varicocele, atrophy and patent processus vaginalis. There was no mortality and morbidity was limited to minor surgical site wound infection. **Conclusion:** High index of suspicion, prompt and adequate intervention were associated with high testicular salvage rate.

Keywords: Testicular torsion, Reaction-time, Salvage, Gangrene.

INTRODUCTION

Testicular torsion was first diagnosed by a French surgeon Delasiauve in 1840. It occurs in every society and at all ages. High index of suspicion remain the key for making early diagnosis. Prompt and effective surgical intervention is essential to preserve testicular function. Delay in presentation or surgical intervention is more often associated with loss of orchids as a result of gangrene., Testicular torsion is commonly seen in the young. Sexual excitement , trauma, extremes of weather, severe extragonadal pain, are some of the precipitating factors. However, in some cases it occurs spontaneously, while in others the torted testis harbour congenital anomaly like maldesent, ectopia, high investing tunica, inversion of the testis and long mesochium among others. Sudden onset of testicular and abdominal pains and vomiting are the most common presenting symptoms. The testis is usually elevated, swollen and tender. Epidedimo-orchitis, scrotal haematoma and strangulated inguinoscrotal hernia are some of the differential diagnosis which can be eliminated by thorough clinical examination. Ultrasonography may occasionally be required for evaluation. Though time is cardinal in preservation of testicular function, in our environment where there is poverty and ignorance, late presentation is common, worsened by unduly prolonged reaction-time as a result of over-stretched health facilities.

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MATERIALS AND METHODS

We retrospectively reviewed records of all patients presenting with testicular torsion at the

University of Maiduguri Teaching Hospital (UMTH) between January 2008 to December 2011. For the purpose of this study, the reaction-time is defined as the time between patient presentation to our hospital to the time of scrotal exploration. The golden time is the clinical timing within which the testis is salvageable and this is usually taken to be 4hours from onset of symptoms. A total of 63 patients who underwent scrotal exploration of which 7 were excluded for incomplete data were studied. Information was obtained on the 56 patients (88.89% of all patients) from hospital records. Demographic data, clinical features, operative findings, treatment and outcome were obtained and analysed using SPSS version18. Ethical approval was obtained from the Research and Ethics Committee of the hospital. All patients were resuscitated with intravenous fluids, parenteral antibiotics (ceftriazone and metronidazole) and analgesics (pentazocine and diclofenac). Basic investigations of packed cell volume and urinalysis were done for all patients. Few had scrotal ultrasound scan which supported decision for scrotal exploration. Scrotal exploration were done under local (2% xylocaine), spinal or general anaesthesia.

RESULTS

In the four year study period a total of 56 patients (112 orchids) aged 11 to 35 years with mean of 23± 17.5 years were analysed. The peak age specific incidence occurred in the age group 11 to 20 (28; 50%). Cardinal symptoms at presentation are depicted in table 1, with testicular pain occurring in all patients followed by swelling (44; 78.57%) and nausea/vomiting (32; 57.14%). Other significant symptoms were seen in 21 (37.50%) which included discomfort, drowsiness, dysuria, fever and collapse.

Duration of symptoms before presentation varied (table 2) with 11 (19.64%) presented within 4 hours of onset, and 30 (53.56%) between 4 to 24 hours while 15(26.79%) presented beyond 24 hours. Twenty-two (39.29%) had scrotal exploration within 4 hours of presentation to the emergency unit, while 26 (46.43%) within 4 to 12 hours, and 8 (14.29%) had delay beyond 12 hours (table 3).

Most patients had right sided torsion 27 (48.21%), while 20 (35.71%) had left torsion and 9 (16.07%) had bilateral. Therefore a total of 65 orchids were torted. Out of 112 orchids operated upon, 65(100%) were torted, 15(23.08%) were lost to gangrene and 50 (76.92%) were salvaged. Testicular salvage rate was 76.92%. However a total of 15 (23.08%) orchids were lost to gangrene, 10 and 5 on the right and left respectively.

Majority of the patients 41 (73.21%) presented during the cold season, harmattan (November to February). Other associated findings were inversion/transverse lie seen in 9 orchids, long mesochium in 5 and hydrocele in 4 orchids. Others are varicocele, hernia, atrophy and persistent processus vaginalis seen in one testis each. Scrotal exploration was done under general in 25(44.64%), spinal 23(41.07%), and local anaesthesia in 8(14.29%).

Table 1: Main presenting symptoms

Testicular pain	56(100%)
Swelling	44(78.5%)
Nausea/vomiting	32(57.14)
Discomfort	6(10.7%)
Dragging sensation	4(7.1%)
Fever	4(7.1%)
*others	7(12.5%)

* Dysuria, drowsiness and collapse.

Table 2: Duration of symptoms (in hours)

<4	11(19.64%)
4-24	30(53.57%)
>24	15(26.79%)
Total	56(100%)

Table 3: Reaction time (time between presentation and exploration.)

<4	22(39.29%)
s4-12	26(46.43%)
>12	8(14.29%)
Total	56(100%)

DISCUSSION

Testicular torsion is the twisting of the spermatic cord. It is commonly seen in adolescence and young adults[5]. Predisposing conditions such as

sudden drop in temperature, long mesochium and testicular inversion were all noted in this study. However a curious finding is the presence of hydrocele, while varicocele, hernia, patent processus vaginalis and testicular atrophy seen in this study have been reported earlier.

The peak age specific incidence in our study is similar to the findings on the Jos Plateau study.[5]

The striking feature of this study is the interplay of delayed presentation and unduly prolonged reaction time within the hospital contributing to the high percentage of testicular loss to gangrene 15(23.08%) This is in contrast to a previous study that found delay to be outside the hospital.[6] However the prolonged reaction time might be an isolated institutional problem in the geopolitical zone of the study. During this study period the region was bedevilled by security unrest characterised by incessant dusk to down curfews that ultimately culminated into the declaration of state of emergency. Over the years the volume of emergencies from missile injuries took precedence over other emergencies. Delay outside the hospital can be attributed to poverty, ignorance and the peculiar security challenges as only 11(19.64%) presented within the golden 4 hours of onset of symptoms that is associated with excellent prognosis.

Pain and swelling are the predominant presenting features in conformity with the established findings over the centuries. However of particular interest are the constitutional symptoms of nausea/ vomiting occurring in 57%. This is higher than reported by Eaton et al
Once the diagnosis of testicular torsion is made, only basic investigations like PCV and Urinalysis were done to prevent unnecessary delay; moreover all the patients were young and fit for anaesthesia. All patients had broad spectrum antibiotics and analgesics.

There was no attempt at conservative management which entails external manual manipulative detorsion towards the median septum of the scrotum. All patients had scrotal exploration. However the study found delay in exploration as only 22(39.29%) had scrotal exploration within 4 hours of presentation, though this is higher than 14% reported by Ugwu et al.[5]

There was no mortality and morbidity was only minor surgical site wound infection in 5 patients, and a scrotal haematoma which was evacuated and wound healed on daily dressing. Orchidopexies were done in otherwise normal testes as a prophylactic measure because this study never found a single case of recurrent torsion following fixation during the four –year period of the study as opposed to findings by Sells et al[9].

In conclusion, the study found delayed presentation and prolonged reaction-time as the main factors responsible for poor outcome. Therefore early presentation, high index of suspicion prompt and adequate intervention are essential for testicular salvage in acute scrotum[10-15]

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ORIGINAL ARTICLE

Experience with Intrauterine Contraceptive Device (IUCD) at University of Maiduguri Teaching Hospital

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ABSTRACT:
Background: Intrauterine contraceptive device is effective, reversible and long term contraceptive method that is widely used in our environment with high acceptability and continuation rate**. Objective:** To determine the socio-demographic characteristics of acceptors and their experience with Intrauterine contraceptive device [IUCD] in University of Maiduguri Teaching Hospital [UMTH]. **Methodology:** This was a retrospective study of acceptors of intrauterine contraceptive device (IUCD) at the family planning unit of the University of Maiduguri Teaching Hospital during the period 1st January 2008 to 31st December 2008. **Results:** A total of 1273 new contraceptive acceptors were seen at the family planning clinic during the study period, of which 710 (55.77%) women accepted and were given IUCD as a contraceptive method. Women aged 20-29 years comprised 45.8% of the acceptors and 96% of them were married. Grandmultiparous women constituted 43.24% and over 32% of the women had no formal education. Up to 70.98% of the acceptor used IUCD for child spacing and the commonest reason for discontinuation was the desire for pregnancy (5.21%). After a year, the continuation rate was 61.7% and the failure rate was 1.3% and all the pregnancies were intrauterine. In conclusion, the socio-demographic characteristics of IUCD acceptors are similar to previous studies but the level of education of the clients is lower. It is an effective contraceptive with high acceptability and continuation rate.

Key Words: IUCD, failure, contraception.

INTRODUCTION

Intrauterine contraceptive device are widely available in most countries that offer family planning services. The new models available offer almost complete protection from pregnancy, and are effective for long term used[1]. Because modern intrauterine contraceptive devices prevent pregnancy more effectively, they may avert many maternal deaths. Intrauterine contraceptive devices can be inserted safely at any time during the menstrual cycle, as long as pregnancy is ruled out; postpartum contraception is also safe[1].

It is estimated that there are about 85 million women world- wide using intrauterine contraceptive devices to prevent unwanted pregnancy; with 60 million in China and another 11 million in developed countries[2].In Nigeria IUCD acceptance ranges from 47% to 66% in different family planning centres[3]. Major concerns over safety of this contraceptive (abdominal pain, irregular vaginal bleeding, genital tract infections and ectopic pregnancy) have been expressed. However a study done in clients using this device showed no increase in these adverse effects[4].

Nigeria's population growth rate is 2.7% and the total fertility rate of 6.3 indicates that this absolute number will continue to increase at a very substantial rate[5]. There is need to lower the population growth rates, through reduction of birth rate by voluntary fertility regulation in consonance with the attainment of economic and social goals of the nation.

Of the different methods of contraception, the intrauterine contraceptive device is one of the most widely accepted and useful[5,6]. This study therefore aims to determine the socio-demographic characteristics of the acceptors and their experience with IUCD in UMTH.

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MATERIALS AND METHODS

This was a retrospective study of the acceptors of intrauterine contraceptive device at the family planning unit of the University of Maiduguri Teaching Hospital over a one year period [1st January 2008 to 31st December 2008]. It reports the first segment insertions performed during the period. The clinic offered counseling on all contraceptive methods available and before the administration of contraception, a full medical history was taken and the general physical, breasts, abdominal and pelvic examination of the client were performed.TCu380A was the IUCD used, while withdrawal technique was the method used for IUCD insertion.

The client's case notes were studied for socio demographic characteristics, previous contraceptive used, and reason for starting family planning, time of insertion, side effects, and reason for discontinuation of the IUCD.

The first segment is the interval from the first insertion to the first termination or to the cut-off date of the study whichever is earlier. Calculated rate of events at 1 year were based on the net cumulative event. Acceptability of the contraceptive method is measured as a rate of continued use, while effectiveness is expressed as a number of pregnancies per hundred women years in child bearing age.

RESULTS

A total of 1273 new contraceptive acceptors were seen at the family planning clinic during the period of study, of which 710 (55.77%) were 1st segment IUCD acceptors.

Table I shows the socio-demographic characteristic of the acceptors. The study group comprised 710 women aged 15-44 years. Teenage clients constituted 3.8% (27), while 7.2% (51) women were above 40years. Women aged 20-39 were in the majority. Forty three point four per cent (307) of the acceptors were grandmultiparae, while 4.23% (30) were nulliparae. About 96% (682) of the women were married, 2.81 %(20) divorced and 1.13 %(8) single. Only about 40% (282) had at least secondary education.

Most insertions (77.89%) were performed during menstruation, with the rest performed in women with lactational amenorrhoea at varying periods of 3 to 8 months post delivery. Most of the clients had never used any contraceptive methods: 61.69% (438), and had 3 or more living children. Only 1.12% (8) had no living child.

Up to 70.99 %(504) of the acceptors used IUCD in order to space their children; 23.23% (165) accepted the IUCD as a form of terminal contraception, while 4.6% (33) resorted to family planning because of economic constraints as detailed in Table II.

The terminal status of acceptors at the end of the period of the observation were; 61.7 %(438) continuers, 23.24 %(165) discontinuers and 15.07 %(107) were lost to follow up.

Medical problems were the commonest event occurring in 4.22% (30) of the acceptors. Accidental pregnancy occurred in 1.3% (9) and expulsion was reported by 5.6% (40). All pregnancies were intrauterine[Table III].

TABLE I: Socio- demographic characteristic of IUCD acceptors (n=710)

AGE	Number	%
<19	27	3.80
20-29	325	45.77
30-39	306	43.09
>40	51	7.18
PARITY		
0	30	4.23
1-4	373	52.54
5-8	280	39.44
o>9	27	3.80
MARITAL STATUS		
Single	8	1.13
Married	682	96.06
Divorced	20	2.82
EDUCATIONAL LEVEL		
None	230	32.39
Primary	198	27.89
Secondary	174	24.50
Post secondary	108	15.21
NUMBER OF LIVING CHILDREN		
0	8	1.13
1-2	141	19.86
3-4	240	33.8
5	321	45.21

Table Ii: Reason For Using IUCD

Reason	Number	%
Birth spacing	504	70.99
Completed family	165	23.24
Economic condition	33	4.65
Schooling	8	1.13
Total	710	100

Table III: Events and Reason for Removal among IUCD Acceptors

1-Type of Termination	Number	%
Accidental pregnancy	9	1.27
Expulsion	40	5.63
2-Removal	**Number**	**%**
Medical reasons	30	4.22
Planning pregnancy	37	5.21
Other personal reason	39	5.49

DISCUSSION

Intrauterine contraceptive device was the commonest contraceptive method used among women in this study. This is in agreement with previous studies.[7, 8 9]. The high acceptability of the IUCD may be a result of its safety, efficacy, cost effectiveness and the fact that regular visits to health care provider is not required[7,10].

In keeping with previous studies, the age range of 20-39 years made up the majority of IUCD acceptors[9, 10]. The parity distribution is also similar to previous studies [9, 10, 11]. This can be explained by the suitability of the IUCD for the multiparae. The fact that majority of the acceptors are married only reflects the socio-cultural belief of the community. Similar findings have been reported earlier. [12] Only 40% of acceptors in our study had at least secondary education. This is lower than 72.8% reported by Abasiattai et al[12]. This is because girl child education is not accorded priority in this area. Only 8(1.13%) of acceptors had no living child. This is because the other methods were not suitable for them despite the fact that the IUCD is also not suitable for nullipara. All 8 nulliparae who had IUCD were single. The "hidden nature" of the IUCD might have influenced the choice over other more suitable methods. The profile of the IUCD acceptors in our study were young age, multiparae, married, of low educational status and having more than five living children. This compares favourably with a previous study[12] as regard to young age and multiparity but is in contrast to the high educational status reported in that study. Aisien[9] also reported high level of education among his clients.

Most clients, 77.9% had insertion during menstruation. This is lower than 93.5% reported from an earlier study [12] . The lower number of insertions during menstruation in our study may be explained by those with lactational amenorrhoea who chose the IUCD. The IUCD is an ideal contraceptive method for lactating mothers as it has no effect on quality or quantity of breast milk[13].The commonest indication for IUCD insertion in our study was for birth spacing which is in agreement with an earlier study [11]. The high continuation rate of 61.7% after one year in our study is in keeping with 61.4% reported by Olatinwo et al[10] and others [8, 9]. The discontinuation rate of 10.1% reported by Okunlola[8] is lower than 23.2% found in this study. The commonest reason for discontinuation, which is desire for pregnancy is however similar in both studies and also reported by others[9, 11].The accidental pregnancy rate with IUCD is generally low. The rate of 1.3% found in this study is similar to 1.3% reported by Olatinwo[10] but lower than 0.3% reported by Adegbola[11]. Expulsion rate of 5.6% found in our study is lower than 2.5 reported by Aisien[9] but in consonance with 5.1% reported by Olatinwo [10] .The events leading to termination in our study ranged from medical reasons, planning a pregnancy to other personal reasons. Similar reasons have been proffered by previous authors [10, 11]

In conclusion, the socio-demographic characteristics of IUCD acceptors are similar to previous studies but the level of education of the clients is lower. It is an effective contraceptive with high acceptabilty and continuation rate..

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CASE REPORT

Isolated right hypoglossal nerve palsy- A case report

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ABSTRACT:
We report a 46 year old woman who developed isolated right hypoglossal nerve palsy two weeks after traditional uvulectomy. Radiological and other general haematological investigations were normal. Isolated unilateral hypoglossal nerve palsy is rare. Thorough physical examination and meticulous investigation is advocated where available.

Key words: isolated, hypoglossal nerve palsy, unidentified cause

Introduction

The nuclei and fascicles of the hypoglossal nerve (12th cranial nerve) are located in the medulla. The nerve exits the cranium via the hypoglossal foramen to innervate the tongue musculature. Although hypoglossal nerve palsy received inconspicuous attention in most standard text books,[1] several aetiological factors have been attributed to it. This include injuries to the head and neck, vascular injuries, space occupying lesions, autoimmune diseases or idiopathic.[2] Clinically, patient may present with lingual dysarthria, atrophy and fasciculation of tongue musculature and deviation of the tongue to ipsilateral side on attempt at protrusion. A patient with isolated right hypoglossal nerve palsy is presented in this report with highlights on challenges of thorough investigation in a developing economy.

CASE SUMMARY

A 46-year old woman was enjoying apparent good health until a year prior to presentation when she developed dysarthria and deviation of the tongue to the right side on protrusion. She had initial difficulty with swallowing which she overcame within short time. Her symptoms were preceded by traditional uvulectomy two weeks earlier, indication for which was not clear but claimed to be due to swollen uvula. There was no history of trauma, stroke or surgery. Examination revealed an otherwise fit woman, with an amputated uvula and deviation of the tongue to the right side (fig 1) with some degree of muscle atrophy.

Fig. 1. Atrophy of the right side of the tongue and deviation to the right on protrusion.

General haematological investigations (full blood count & erythrocytes sedimentation rate) were normal. Retroviral screening was negative and chest radiograph was within normal. Cranial Computerized tomographic (CT) scan did not reveal any ischaemic or space occupying lesion.

Fasting blood glucose (FBG) and electrolyte,

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urea & creatinine (e/u/c) were normal. At the time of writing this report, we do not have facilities for virological studies like anti cytomegalovirus (CMV), Epstein-Barr virus etc. These serological tests would have given a clue for possible viral infection or exposure. Electrophysiological evaluation like electromyography (EMG) was also not done due to non availability of equipment; EMG will give objective assessment of return or otherwise of muscular electrical activity which is useful in prognostication.

She was placed on multivitamins and has been receiving physiotherapy. As at last visit, there was clinically appreciable improvement in the tongue muscle bulk and deviation. She also said there has been significant improvement as regards the dysarthria.

Fig.3. Six months of physiotherapy: Note the improvement in muscle bulk and tongue deviation on protrusion.

DISCUSSION

The hypoglossal nerve (XII) takes its origin from a nuclear column located in the floor of the IVth ventricle and is derived from the same cell group as the nuclei of nerves III, IV and VI. Its fascicular fibres traverses the full sagittal diameter of the brainstem exiting from the ventral surface of the medulla between the pyramid and olive.[3] Although the nucleus consist of four distinct subnuclear columns, its motor composition is not clearly understood owning to its complexity.[4] Isolated unilateral hypoglossal nerve palsy is rare. As an entity, its occurrence therefore is more often than not attributable to lesions at the supranuclear, nuclear or infranuclear levels. Blomquist and co-workers found ultrasonic assessment unremarkable but MR imaging/MR angiography useful in hypoglossal nerve palsy due to Dural Arteriovenous fistula.[5] In our patient cranial CT scan did not reveal any lesion. MRI would have been considered for better soft tissue delineation if there has been the slightest suspicion of soft tissue lesion on the CT.

This rare condition has varied causes which ranges from trauma through cervical vertebra dislocation, carotid aneurysm, intracranial neurolemoma and infectious mononucleosis to vaccination.[6,7,8] Multiple sclerosis, hysteria, Guillain-Barre neuropathy, stroke, surgery and infection have been reported as other causes in a review of 26years experience in which up to 3% of cases were idiopathic.[9] In our patient, although no virological investigation was carried out, we couldn't establish a cause. Careful clinical history and thorough systematic physical examination is mandatory in evaluating a patient with isolated hypoglossal nerve palsy. In this index case, absence of positive history and negative loco-regional features ruled out neck surgical procedure, parapharyngeal/ retropharyngeal infections and skull base metastatic disease. Ho[10] and co-workers developed Potential pathway of investigations in a patient presenting with isolated hypoglossal nerve palsy depending on clinical assessment as follows: Basic haematological: Full blood count, Erythrocyte sedimentation rate and C-reactive protein. Special haematological (immunology tests): rheumatoid factor, complement. Serology for infectious agents: Herpes simplex, Epstein-Barr virus, Cytomegalovirus. Radiology: CT, MRI, CXR (to exclude tuberculosis). CSF analysis may also be helpful.

Uvulectomy is the rarest throat surgery mentioned in the early medical literature, it receives only brief attention in most modern standard text. This throat surgery is unusual in present day otorhino-laryngological practice. In some African countries like Kenya, Nigeria, Sierra Leone and Tanzania, traditional uvulectomy is carried out due to varied throat lesions by the traditional barbers. Children and adults are victims and the procedure is fraught with several health hazards including infections.[11] In a study of 385 children, Isa and co-workers reported that, the commonest influencing factor for traditional uvulectomy was prevention or cure of frequent throat infections.[12] In this case report, the patient had traditional uvulectomy one year prior to presentation, indication was not confirmed but she said the uvula was swollen. It is possible that it was throat infection which could be viral or bacterial that influenced her decision to undergo

the traditional procedure. On the other hand the procedure might have been complicated by infection which may have lead to the isolated nerve palsy. The reality remained unascertained since neither coherent history nor equipment for serological (virology) was available at the time of this report. There is paucity of literature on traditional uvulectomy globally, further research on this procedure especially in countries where this is still a common practice is essential.

Treatment of hypoglossal nerve palsy is essentially treatment of the cause, in idiopathic, isolated cases however a minority may resolve without specific treatment[13]. In our patient there has been significant improvement clinically although basic electrophysiologic assessment was not possible at the time of this write up. It has been reported that only about 15% of cases of hypoglossal nerve palsies recover fully[4].

In conclusion, isolated hypoglossal nerve palsy requires careful clinical evaluation in order to establish its aetiology. Practitioners in developing countries may be challenged by inadequate medical equipment.

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CASE REPORT

Hepatocellular Carcinoma Metastasizing to The Skin: An Unusual Presentation

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ABSTRACT:
Hepatocellular carcinoma is a common malignancy, however skin metastasis is rare. We report a 65years old male farmer, who presented with a recurring anterior chest wall mass, of several months duration. He had an ulcerated, spontaneously bleeding exophytic tumour on his anterior chest wall, over the lower sternum and upper abdomen. Histologic diagnosis was metastatic hepatocellular carcinoma. The case serves as an example that unusual presentations can occur for hepatocellular carcinoma, necessitating a thorough preoperative assessment of cases presenting similarly.

Keywords: Hepatocellular, Carcinoma, Metastasis

INTRODUCTION

Hepatocellular carcinoma (HCC) is the fourth most common cancer worldwide.[1] The World Health Organization(WHO) reports it as the 7th most common cancer in males and the 8th in females.[2] Aetiological factors include infection with Hepatitis B, and C viruses, cirrhosis, exposure to aflatoxins, and metabolic disorders like tyrosinosis.[1, 3] The typical tumour grossly, grows as a unifocal, multifocal or diffuse lesion in the liver.[2, 3] Microscopically, the tumour grows as a conventional or special type. The conventional type of tumour is trabecular, pseudoalveolar, or solid. The fibrolamellar type is a special form of the tumour with a more favorable outcome.

Frequent sites of metastasis include the lungs, lymph nodes, adrenal glands, and bone. Sites of skeletal metastasis usually include vertebrae, ribs, and long bones, though reports of hepatocellular carcinoma manifesting as mandibular and scapular masses are not uncommon.[4] Prognosis is universally poor, with most cases dying within a few months after diagnosis. The fibrolamellar type is said to carry a better prognosis if discovered early.

CASE REPORT

We report a 65years old male farmer, who presented with a recurring anterior chest wall mass, of several months duration. He had had a lumpectomy done from the site, about 3 months before presentation. The lump was said to be slowly growing and painless. He did not smoke cigarette or ingest alcohol. His other social histories were not significant. On examination, he was emaciated, moderately pale, dehydrated, anicteric and afebrile. He was fully conscious and oriented, with a raised blood pressure. He had an ulcerated, spontaneously bleeding exophytic tumour on his anterior chest wall, over the lower sternum and upper abdomen, measuring 10 X 4 X 3.5 cm. A clinical impression of squamous cell carcinoma was made, and he was prepared for surgery. The surgery consisted of a wide excision. Intraoperatively, it was observed that the tumour extended into, and destroyed the lower sternum. The wound was packed and dressed daily, with a second surgery involving skin grafting, done 4 weeks later. The

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graft which took and healed well initially later developed nodules. An abdominopelvic ultrasound scan done 8 weeks after the excision biopsy, showed an echogenic mass in the right lobe of the liver measuring 8.9 X 9.3cm, continuous with the area of the chest wall tumour anteriorly. There was also ascitis; however, the other abdominal viscera were within normal limits. Histopathological report of the biopsied lesion, revealed an ulcerated infiltrative tumour growing in sheets, nests pseudoalveolae and trabeculae. It is composed of large hepatoid cells, with vesicular to hyperchromatic, round to oval nuclei, occasional prominent nucleoli and abundant eosinophilic cytoplasm. Occasional greenish granular pigments both intra- and extra- cellularly is seen. Tumour emboli and a moderately inflamed stroma are also noted. A diagnosis of moderately differentiated hepatocellular carcinoma was made. The patient however, was lost to follow up.

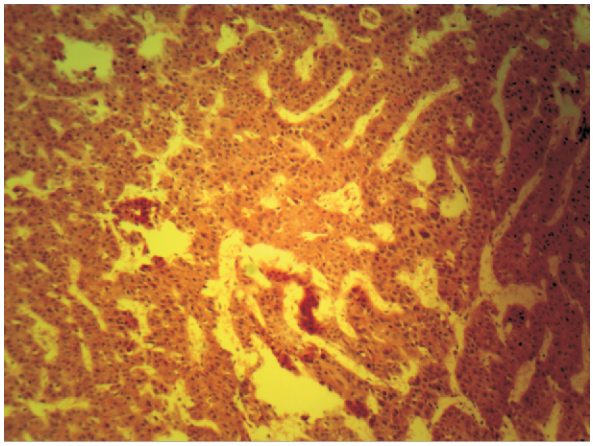

Figure 1: Note malignant hepatoid

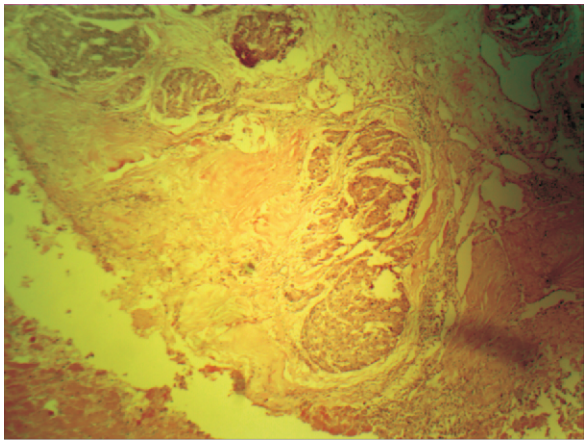

Figure 2: Showed metastatic cells arranged in trabecular pattern. H&E x100 nests. H&E x40

DISCUSSION

Hepatocellular carcinoma is one of the most common primary hepatic malignancies worldwide. Incidence is especially high in China, Japan, Korea, and sub-Saharan Africa, where hepatocellular carcinoma ranks as one of the top four malignancies in adults and has an annual incidence as high as 150 cases per 100,000 population.[4]

This case is rather unusual in the presentation of hepatocellular carcinoma especially, since the tumour is not known to permeate the Glisson's capsule and infiltrate the anterior abdominal wall, presenting as an ulcerated cutaneous lesion. Reported cases in the literature, mention the occurrence of the cancer in the posterior abdominal wall,[5] along needle tracts;[6] and also presenting for the first time as a cutaneous mass[7, 8, 9] or, as a soft tissue mass in the gluteal region[4].

Some investigations needed to be done in this patient were HBsAg, HCV and α-Fetoprotein assays, these were not done because the clinician had not entertained the diagnosis of hepatocellular carcinoma. The patient was lost to follow-up after discharge from hospital admission and further investigations not done.

As a form of ancillary investigation, tumour markers that are relevant in evaluating adenocarcinoma of potential hepatic origin include carcinoembryonic antigen (CEA), alpha-fetoprotein (AFP), vimentin, and anticytokeratins AE1, AE3, and CAM 5.2.[1, 4]

Once a liver mass is suspected in patients at risk of developing hepatocellular carcinoma, imaging becomes critical in the evaluation of these patients.[1] These imaging techniques include abdominal ultrasound scan, computed tomographic scan and magnetic resonance imaging.

CONCLUSION

This case is instructive in appreciating how difficult working in a resource-poor setting can be especially, considering the fact that the patient's preoperative work up was poor and also, postoperatively, he was lost to follow up. The case also serves as an example that unusual presentations can occur for hepatocellular carcinoma, necessitating a thorough preoperative assessment of cases presenting similarly.

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