

Profile of Liver Biopsies in Benin City: The Challenge of Defaulting Patients.

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ABSTRACT

Aim: To review the profile of liver biopsies done in the University of Benin Teaching Hospital and patients' reasons for fear or rejection.

Methods: All patients requiring liver biopsy within one year (May 2011-April 2012) were interviewed pre and post-biopsy. Defaulters were traced and interviewed.

Results: Sixty three patients were offered biopsy of which 26 (41.3%) accepted it, 29 (46.0%) defaulted and 8 (12.7%) were unfit. Seven (24.1%) of the 29 who defaulted were untraceable.

Indications for biopsy included asymptomatic chronic hepatitis B infection 34 (54.0%), uncharacterized chronic liver disease 16 (25.4%), liver cancer 7 (11.1%), alcoholic liver disease 4 (6.3%) and drug induced hepatitis 2 (3.2%).

Histologic diagnosis revealed chronic hepatitis 9 (34.6%), cirrhosis 3 (11.5%), hepatocellular carcinoma 4 (15.4%), steatosis 1(3.8%), secondary malignancy 1 (3.8%), normal findings 8 (30.8%).

Reasons for refusing biopsy included fear of death (54.6%) or pain 21 (95.5%), feeling that it was unnecessary 5 (22.7%), advice from others 15 (68.2%). Few knew anyone who had previously had liver biopsy 2 (9.1%). All who accepted it believed their fears were unjustified and would repeat it if necessary.

Conclusion: There is a high default rate of liver biopsies largely due to unjustified fear. Detailed counseling may alleviate these fears and improve response.

Key words: Liver biopsy, challenges, defaulters

INTRODUCTION

Over the years there have been new innovations in investigation of liver diseases.

However, in spite of the technologic advances, percutaneous transthoracic liver biopsy remains a valuable tool for obtaining tissue for histologic diagnosis of liver disease.^{1,4-6.}

Liver histology is also required before initiating anti-viral therapy for chronic HBV infection particularly where facilities for serology are unavailable.² It has been noted that patients default from procedures which are invasive for various reasons ranging from fear of pain to fear of death. Procedures as simple as venepuncture

for hepatitis virus screening have drawn attention due to default.³

Liver biopsy is an essential tool for diagnosis, but patients' fears sometimes rejects the procedure in spite of counseling and reassurance. This study was designed to review the profile of percutaneous liver biopsies done in the University of Benin Teaching Hospital and to determine patients' reasons for default of the procedure.

METHODS

All patients attending University of Benin Teaching Hospital (UBTH) who required liver biopsy consecutively within a period of one year from May 2011-April 2012 were recruited into the study. The procedure was done predominantly on an outpatient basis.

Patients were counseled before preparation with a brief explanation of the procedure and

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thereafter consent obtained. Patient's bio data were noted and they were prepared for the biopsy with the usual investigations carried out; consisting of Ultrasound scan, Full blood count and Coagulation profile to determine if they were fit for the procedure. Appointments were booked two to four weeks in advance to enable this investigation process to be completed. Patients were instructed to confirm their booking the day before the procedure via telephone and those who did not confirm their booking were reminded via telephone.

Percutaneous needle biopsy was done with Menghini needle and patients were allowed home four hours later if no complication were detected. The patients were interviewed pre and post biopsy with a researcher designed, pretested questionnaire designed to elicit information on their fear about it, who they spoke to about the procedure, if they knew anyone who had done it previously and if they knew of any adverse event surrounding it. After the procedure the interview was completed with questions on if they felt their fears were justified and if they would undergo it again if necessary. Defaulters were asked all applicable questions and also why they defaulted. Data was presented as simple frequencies. Comparison of continuous and discontinuous variable was done with t-test and chi-square test respectively. Differences were deemed significant at $p \geq 0.05$. Analysis was done with SPSS version 11 software.

RESULTS

A total of 63 patients were offered the procedure within the one year. All patients requiring liver biopsy for the first time within one year (May 2011-April 2012) were interviewed pre and post biopsy. Fifty five patients (87%) were fit while 8 (13%) patients were unfit for the procedure. Out of the 55 patients, only 26 biopsies were done while 29 defaulted. Seven (24.1%) of the 29 who defaulted were untraceable. The mean age of the patients' was 33.2 ± 8.4 years. Sex distribution was as follows: male 54 (85.7%) while female were 9 (14.3%) giving a male to female ratio of 6:1. In-patients were 5 (19.2%) while the rest were out-

patients 21 (80.8%). Apart from mild pain post procedure, no complication was recorded.

Table 1: Characteristics of the study population

AGE (YEARS)	FREQUENCY	PERCENTAGE
20-29	17	27.0
30-39	29	46.0
40-49	13	20.6
≥ 50	4	6.3
TOTAL	63	100

EDUCATION

Primary	10	15.9
Secondary	41	65.1
Tertiary	12	19.0
Total	63	100

FIG 1: PROFILE OF DEFAULT VS ACCEPTANCE

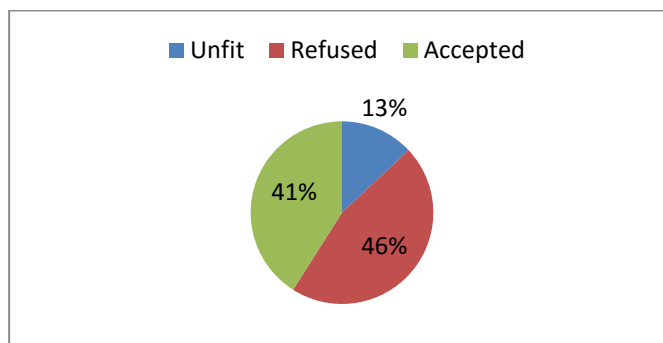


TABLE 2: INDICATIONS FOR BIOPSY

INDICATIONS	Frequency (N)	Percentage (%)
Asymptomatic chronic hepatitis B infection	34	54.0
Uncharacterized chronic liver disease	16	25.4
Liver cancer	7	11.1
Alcohol liver disease	4	6.3
Drug induced hepatitis	2	3.2
Total	63	100

TABLE 3: REASONS FOR DEFAULT

REASONS	Frequency (N)	Percentage (%)
Fear of pain	21	95.5
Advice from others	15	68.2
Fear of death	12	54.6
Feeling it was unnecessary	5	22.7
Need more time to think	4	18.2
Financial limitation	2	9.1
Unable to make the journey	1	4.5

N = 22. Multiple responses

TABLE 4: OCCUPATION OF DEFAULTERS VS NON-DEFAULTERS

Profession	Defaulters' frequency (%)	Non-defaulters frequency (%)
Medical personnel	16 (55.2)	12 (46.2)
Non-medical personnel	13 (44.8)	14 (53.8)
Total	29 (100)	26 (100.0)

p>0.05; NS (Not Significant).

TABLE 5: SOURCES OF INFORMATION OF DEFAULTERS VS NON DEFAULTERS

Information source	Defaulters' frequency (%)	Non-defaulters frequency (%)
Medical personnel	15 (68.2)	14 (53.8)
Non-medical personnel	7 (32.8)	12 (46.2)
Total	22 (100)	26 (100.0)

p>0.05; NS (Not Significant).

DISCUSSION

The largest proportion of the respondents fell within the age group of 30-39 years, with the mean age of the respondents at 33 ± 8.4 years. This clearly demonstrated the high prevalence of liver diseases among the youths in our society who are mostly involved in certain life-style that predisposes them to wild range of liver diseases.

Majority (85.7%) of the respondents were male which could be attributed to the fact that more male indulge in life-style that predispose them to liver diseases than their female counterparts. Moreover, a higher proportion of the respondents had secondary level of education as their level of education which is a true reflection of the level of literacy in our society due to poor socio-economic status of majority of the population.^{7, 8, 9, 10, 11}

Some of the indications for liver biopsy in this study were asymptomatic chronic hepatitis B infection, uncharacterized chronic liver disease and liver cancer among others. However, a higher proportion of the respondents presented with asymptomatic chronic hepatitis B infection. This finding is in keeping with high prevalence of asymptomatic chronic hepatitis B infection in our environment and the need to increase the awareness and practice of hepatitis B vaccination in our environment.^{12, 13, 14, 15}

Large proportion of the respondents who accepted to have the liver biopsy performed on them after they were dully counseled on the need, the procedure as well as the possible complication that might arise, defaulted. Only small proportion of the respondents who accepted to have liver biopsy performed was unable to have it done due to the fact that they were unfit for liver biopsy procedure.

However, some of the reasons given by the respondents who defaulted were fear of pain, advice from others, fear of death, feeling that it was unnecessary, need more time to think, financial limitation and unable to make the journey. In this study, majority (95.5%) of the respondents defaulted for fear of pain.

It was however interesting to observe from the findings that greater number of the respondents who defaulted were Medical Personnel. This may be due to the fact that medical personnel may likely have more access to information on the complications of liver biopsy and they will most often than not have others around them that will advise them not to do it. Moreover, it is a well known fact that medical personnel are the worse candidates for invasive procedure such as liver biopsy. There was statistically no difference between the occupation of defaulters and non-defaulters ($p>0.005$).

Majority of the respondent who defaulted have medical personnel as their source of information. This finding is in keeping with the fact that a large proportion of defaulters were medical personnel as well as such will definitely get most of their information from their colleagues. This therefore suggest that medical personnel in general need to be better informed about the procedure and better trained to advice those who seek information from them.

The findings of the post biopsy interview were noteworthy since all who accepted it believed that their fears were unjustified and would repeat it if necessary. Few defaulters knew anyone who had previously had liver biopsy 2(9.1%).

The limitation encountered in the course of this study was due to use of telephone reminder. This study probably yielded a somewhat lower default rate than would have occurred if the respondent were not reminded.

There were however no statistically significant difference in default rate with age, sex or educational status of the respondents.

Moreover, none of the respondent knew anyone who had experienced complications or died as a result of liver biopsy procedure. This was in keeping with the fact that there is usually low frequency rate of liver biopsy complications provided that the normal precautionary measures are adhered to strictly.

In conclusion, there was a high default rate of liver biopsies largely due to unjustified fears. We recommend that this may be alleviated by more extensive counseling. Moreover, increased awareness about the low frequency of complications of liver biopsy may improve response.

Medical staff outside the gastroenterology unit needs enlightenment about the safety and importance of liver biopsy procedure. This will in no doubt enable them to encourage rather than discourage intending patients and probably be more willing to submit them to it when the need arises.

REFERENCES

1. Samaila AA, Mohammed AZ, Borodo MM, Tijani BM. Histopathological findings in liver biopsies and clinical correlates at Kano, Nigeria. *Sahel Medical Journal* 2008; 11:20-23.
2. Joseph K, Rose MO, David EK, Kyong-Mi C. Evaluation of the significance of pretreatment liver biopsy and baseline mental health disorder diagnosis on hepatitis completion rates at a Veterans Affairs Medical Centre. *Hepatitis Research and Treatment* 2013; vol.10:11-55.
3. Forbi JC, Obagu JO, Gyar SD, Pam CR, Pennap GR, Agwale SM. Application of dried blood spot in the sero-diagnosis of hepatitis B infection (HBV) in an HBV hyper-endemic nation. *Ann Afr Med* 2010; 9: 44-45.
4. Ugiagbe EE, Udoh MO. The histopathological pattern of liver biopsies at University of Benin Teaching Hospital. *Niger J Clinpract* 2013; 16: 52-69.
5. Jowett SL, Agarwal K, Smith BC, Craig W, Hewett M, Bassendine DR, Gilvarry E, Burt AD, Bassendine MF. Managing chronic hepatitis C acquired through intravenous drug use. *Quarterly Journal of Medicine*. 2001; 94(3): 153-158.
6. Fen-Yu Ren, Xi-Xu Piao, Ai-lian Jin. Delayed hemorrhage from hepatic artery after ultrasound guided percutaneous liver

- biopsy, a case report. *WJG* 2006; 12(26): 4273-4275.
7. Ogunmola OJ, Oladosu YO, Olamoyegun MO. Relationship between socioeconomic status and HIV infection in a rural tertiary health centre. *HIV AIDS (Auckl)*. 2014; 6: 61–67.
 8. Onoh RC, Ezeonu PO, Anozie BO, Esike COU, Obuna JA, Egbuji C, Agwu UM, Agboeze J, Chukwudi IP. Outcome of teenage pregnancy at a tertiary Hospital in Abakiliki Southeast Nigeria. *Journal Of Basic And Clinical Reproductive Sciences*. 2014. Vol. 3 No. 1: 22-26.
 9. Mutimer DJ, Olomu A, Skidmore S, Olomu N, Ratcliffe D, Rodgers B, Mutimer HP, Gunson BK, Elias E. Viral hepatitis in Nigeria sickle-cell disease and commercial blood donors. *QJM*. 1994; 87(&): 407-411.
 10. Emechebe GO, Emordi IJ, Ikefuna AN, Elechukwu GC, Igwe WC, Ejiofor OS, Elechukwu CA. Hepatitis B virus infection in Nigeria – A review, *Niger Med J* 2009;50:18-22.
 11. Yakasai IA, Ayyuba R, Abubakar IS, Ibrahim SA. Sero-prevalence of hepatitis B Virus infection and its risk factor among pregnant women attending antenatal clinic at Amino Kano Teaching Hospital Kano, Nigeria. *J Basic Clin Reprod Sci*. 2012; 1:49-55.
 12. Joseph CF, Odunayo HI, Timothy Z, Simon MA. Prevalence of hepatitis B e antigen in chronic HBV carrier in North-Central Nigeria. 2012. Available from <http://www.ncbi.nlm.nih.gov/PMC/articles/PMC3>
 13. Olatunji MK, Abideen AW, Daniel AA, Timothy S, Anthony IO. Sero-prevalence of hepatitis B surface antigenemia and its effect on Hematological parameters in pregnant women in Osogbo, Nigeria. 2012. Available from <http://www.virologyj.com/content/9/1/317>