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<td>Author 1</td>
<td>MGBOR, Samuel O.</td>
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<td>Author 2</td>
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The Ultrasonographic Characteristics of Hepatic Amoebiasis With Jaundice

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ABSTRACT

Objective: To determine the sonographic features of hepatic amoebiasis with jaundice.

Design: A thirty-three month ultrasonographic study of patients with hepatic amoebiasis.

Setting: The University of Nigeria Teaching Hospital, Enugu, Nigeria.

Subjects: Twenty-two patients with sonographic features of hepatic amoebiasis (ten jaundiced and twelve non-jaundiced) managed between January 1985 and September 1987 were reviewed.

Results: The sonographic appearances of the abscesses were similar in both the jaundiced and non-jaundiced cases. Multiple cavities were commoner in the jaundiced cases. Many of the abscesses were echogenic, but the most echogenic were the smaller abscesses especially found in those with multiple cavities. Distal acoustic enhancement was frequently observed in both groups. Four subjects with jaundice were diagnosed as having diseases other than hepatic abscesses: (Infective hepatitis 2 cases, biliary tract disease and liver cirrhosis one case each).

40 per cent of the abscesses in the jaundiced cases were located ventrally and...
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close to the hilum unlike in the non-
jaundiced cases where most of the absec-
tes were located posteriorly and superi-

Conclusion

The multiplicity of the abscess cavities and
the location of the abscesses close to the
hilum were important factors in the
development of jaundice in hepatic
amoebiasis. Distal acoustic enhancement
said to be a feature of pyogenic hepatic
abscesses was a frequent sonographic
feature of hepatic amoebiasis whether
jaundiced or not, and so such cannot be
used to differentiate between pyogenic and
amoebic liver abscesses. Ultrasonography is
an important procedure in the initial
evaluation of hepatomegaly with jaundice in
the tropics.

Introduction

Hepatic amoebiasis is a common medical
problem in the tropics; hence it was called
tropical abscess. It may present in various
forms including as an acute abdomen,1,2 and
the clinical diagnosis is usually made in the
presence of fever, right upper abdominal
pain and tender hepatomegaly in an adult
within an endemic area.3 Jaundice was
previously said to be rare,4 hence was used
as of differentiating feature between hepatic
amoebiasis and pyogenic liver abscess.3

Ultrasonography is being utilized in the
clinical evaluation of patients with liver
disease,5 and lately distal acoustic
enhancement was reported to be a
characteristic feature of pyogenic liver
abscess.6 We report our experience with a
grey-scale B-mode ultrasonography in the
management of patients with amoebic liver
abscess.

Materials and Method

The study comprises 22 patients with
hepatic amoebiasis who were admitted by
the gastroenterology unit of the department
of medicine of the University of Nigeria
Teaching Hospital, Enugu Nigeria between
January 1985 and September 1987. The
case records of the patients were reviewed
and the diagnosis of hepatic amoebiasis
confirmed by the presence of the diagnostic
criteria as suggested by Njogu and his
colleagues.6

All the patients underwent complete
clinical examination, analysis of stool
specimens for cysts and trophozoites of
Entamoeba histolytica and routine liver
function tests (serum bilirubin,
Transaminases and alkaline phosphatase) and
serum proteins. Sera were analysed for anti-
amoebic antibodies using the gel-diffusion
precipitin test HK-G oxic antigen.

Ultrasonographic examination was done in
all the patients and this was obtained in
each patient with contact B-scanning using
2.25 and 3.51 MHz transducer. The
examination utilized multiple sagital and
transverse sections supplemented with
coronal and subcostal beam as needed.

In an attempt to define the peculiar
characteristics or diagnostic features of the
abces cavities sonographically, we
<table>
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<tr>
<th>Sonographic Features</th>
<th>Jumlicided</th>
<th>Non-Jumlicided</th>
<th>Level of Significance</th>
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<tr>
<td>a) Number of abscess cavities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>3 (50)</td>
<td>9 (75)</td>
<td></td>
</tr>
<tr>
<td>Multiple</td>
<td>7 (700)</td>
<td>3 (25)</td>
<td>p &gt; .05</td>
</tr>
<tr>
<td>b) Diameter of largest abscess</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (mm)</td>
<td>9.6</td>
<td>10.7</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>6-13</td>
<td>6-14</td>
<td></td>
</tr>
<tr>
<td>c) Abscess wall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well defined</td>
<td>7 (70)</td>
<td>9 (75)</td>
<td>NS</td>
</tr>
<tr>
<td>d) Echogenicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoechoic</td>
<td>10 (100)</td>
<td>10 (83.3)</td>
<td>NS</td>
</tr>
<tr>
<td>Anechoic</td>
<td>0</td>
<td>2 (16.7)</td>
<td></td>
</tr>
<tr>
<td>e) Distal acoustic enhancement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 (70)</td>
<td>8 (66.6)</td>
<td>NS</td>
</tr>
<tr>
<td>f) Presence of internal echoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 (30)</td>
<td>5 (41.7)</td>
<td></td>
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<tr>
<td>g) Location of cavity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hilum and/or ventrally</td>
<td>4 (40)</td>
<td>10 (33.3)</td>
<td>p &gt; .05</td>
</tr>
<tr>
<td>Superior and/or dorsally</td>
<td>6 (60)</td>
<td>11 (91.7)</td>
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considered the following criteria in the evaluation of the appearance of the abscess: size, location, pattern (echogenic, anechoic or hyperechoic), and nature of the wall (irregular, indistinctly delineated or well defined), and through transmission or distal acoustic enhancement (DAE). The data presented as mean plus standard deviation were analysed by the unpaired student's t-test where appropriate. A p-value less than 0.05 was considered statistically significant.

Results

The ages of the patients range from 22 to 62 years (mean 40.23 ± 10.29). All the 22 patients were males and ten of the cases were jaundiced. Of these ten cases the admission diagnoses were hepatic amoebiasis (n = 6), hepatitis (n = 2), biliary tract disease and cirrhosis of the liver (one case each).

Sonography

The sonographic characteristics of the 22 cases are shown in table 1. Multiple cavities were commoner in the jaundiced cases (p<0.05), but the mean diameter of the largest cavities did not differ in the two groups. Many of the abscesses had well defined walls in both groups and the majority of the abscesses were hyperechoic. Distal acoustic enhancement found in both groups was commoner in the jaundiced cases although this difference was not statically significant. Most of the abscesses were echogenic but the small abscesses were the most echogenic.

More of the jaundiced cases had their abscesses located ventrally and close to the hilum unlike in the non-jaundiced cases in which most of the abscesses were located superiorly and dorsally in which most of the abscesses were located superiorly and dorsally (p<0.05).

Discussion

The diagnosis of hepatic amoebiasis is occasionally straightforward. Very often the initial diagnosis may be diseases other than an abscess especially when jaundice is part of the presenting feature. In a typical patient, there is fever with right upper quadrant abdominal pain, an enlarged tender liver and leucocytosis. Where facilities are available, grey-scale ultrasound is used to demonstrate an intrahepatic space occupying lesion and this has replaced exploratory needleling in demonstrating the fluid nature of the intrahepatic mass lesion. This diagnostic modality was used in this study, and was very helpful in demonstrating the presence of an abscess cavity within the liver in the four cases in whom hepatic amoebiasis was not considered during the initial clinical evaluation. Many of the abscesses in this study showed similar sonographic features as described by previous authors. The sonographic appearance of the abscess are not characteristic, being similar to other hepatic space occupying lesions (benign and cystic lesions) while multiple lesions showed sonographic features not reported in
any other hepatic space occupying lesion. In such multiple abscesses, the smallest cavities which were the most echogenic is similar to the finding of Sukor and his colleagues who suggested that this phenomenon may be due to the effect of the surrounding liver tissue and the tension within the wall of the small abscess unlike the large abscess in which there is reduced wall tension. Distal acoustic enhancement found in the majority of the abscess cavities in this study is interesting. It was said to be a feature of pyogenic liver abscess but later reported in one case of hepatic amoebiasis. This later report and our experience suggest that DAE cannot be used as a distinguishing feature between pyogenic liver abscess and hepatic amoebiasis.

The finding in this study of more of the jaundiced cases having their cavities located at or close to the hilum of the liver is in support of the suggestion that this feature is a contributory factor to the causation of jaundice in amoebic liver abscess. Thus it seems that multiplicity of the abscesses together with the location of the abscesses close to hilum are probable causative factors in the jaundice in our series of cases.

Acknowledgement

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