ULTRASONOGRAPHIC FEATURES OF LIVER ABSCESSES

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ABSTRACT

The ultrasonographic findings of 19 liver abscess patients caused by different organisms were evaluated in terms of echogenicity, multiplicity, size location and associated findings. Among 8 cases of melioidosis, most cases (7/8) had low echoic abscesses located in the right lobe. Three from four cases of fasciitis had low echoic lesions with echoic nidus. All 3 cases of staphylococcal abscess had low echoic lesions in the right lobe. In tuberculous, amoebic, E. coli and Klebsiella abscess, because there was only one patient found in each disease, their ultrasoundographic features could be concluded.
PATIENTS

Group of patients who had tuberculosis abscess were admitted from March 1993 - August 1993. A total of 19 patients were included in this study. The criteria for inclusion were;

1. Admission within 1 week of abscess aspiration.
2. Abscess size greater than 2 cm.
3. Abscess culture positive for M. tuberculosis.

RESULTS

The study included 19 patients who met the inclusion criteria. The abscess size ranged from 2 cm to 10 cm. The abscess location was predominantly in the upper lobes (13 patients). The most common organisms isolated were M. tuberculosis (8 patients), Mycobacterium kansasii (4 patients), and Staphylococcus aureus (3 patients). The median duration of abscess drainage was 4 weeks. The overall success rate in terms of complete abscess resolution was 89%.

<table>
<thead>
<tr>
<th>Organism</th>
<th>No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. tuberculosis</td>
<td>8</td>
</tr>
<tr>
<td>Mycobacterium kansasii</td>
<td>4</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>3</td>
</tr>
<tr>
<td>Mycobacterium tuberculosis</td>
<td>1</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>1</td>
</tr>
<tr>
<td>Klebsiella pneumoniae</td>
<td>1</td>
</tr>
<tr>
<td>Entamoeba histolytica</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
</tr>
</tbody>
</table>

DESIGN

A retrospective study was conducted to assess the outcomes of abscess aspiration in tuberculosis patients.
**Pathological diagnosis**

<table>
<thead>
<tr>
<th>Abcesses</th>
<th>Echogenicity</th>
<th>Total (area)</th>
<th>SR (cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. abscess</td>
<td>simple</td>
<td>high</td>
<td>low</td>
</tr>
<tr>
<td>E. coli</td>
<td>-</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Staphylococcus</td>
<td>-</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>E. coli</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Klebsiella</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Amoeba</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

*with septation*

- M. abscess: right lobe 7
- E. coli: right lobe 7
- Staphylococcus: right lobe 3
- Tuberculosis: right lobe 3
- Klebsiella: right lobe 3
- Amoeba: right lobe 3

**DISCUSSION**

E. coli is the most common organism causing liver abscesses. It is usually a Gram-negative bacillus. The abscesses are characterized by an area of low echogenicity surrounded by a hyperchogenic wall. The abscesses are usually solitary and do not communicate with the gallbladder. The infection is usually due to intravenous drug use or contaminated equipment. The treatment is usually nonsurgical, with antibiotics and supportive care.

M. abscess: right lobe 7
- multiple small low echogenic lesion
- huge low echo lesion

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ECHOIC LESION IN RIGHT LOBE 3.5 CM. IN SEPTATION (Fig. 4) WITH NO SEPTATION (Fig. 2). 

Pyogenic Abscess: Staphylococcus, E. coli, Klebsiella.

The patient had a pyogenic abscess consisting of single or multiple, echogenic or hypoechoic, solid or cystic masses with low echogenicity in the liver or spleen. The abscesses were localized in the right or left lobe of the liver or spleen. The abscesses were induced by infection with bacteria such as Staphylococcus, E. coli, and Klebsiella. The abscesses were treated with antibiotics and aspiration. The patient recovered and was discharged.
Amoebic abscess

Saw a small nodule in the right lobe of the liver. The nodule seems to be located in the periphery of the liver. The CT scan also shows a hypodense lesion in the right lobe.

Fasciola

Diagnosed with a lesion of Fasciola hepatica. There is a lesion in the liver:
- Hypodense lesion consistent with fasciola lesion.
- Lesion in the left lobe.
- Abscess caused by Fasciola infection.
In the report, the patient had a low echogenic lesion in the right lobe of the liver. A follow-up ultrasound showed that the lesion had slightly increased in size. A biopsy was performed, and the histological examination revealed a low-grade fatty lesion. The patient was advised to continue follow-ups and to maintain a healthy lifestyle.
CONCLUSION

- Melioidosis ส่วนใหญ่ (7/8 ราย) พบที่ right lobe เป็น multiple low echoic lesion ขนาดแตกต่างกันไม่มาก

- Fasciola abscess ส่วนใหญ่เป็น low echoic รวมทั้งลักษณะและลักษณะอื่นๆ echoic nodule ซึ่งไม่รวมเป็นตัว fasciola

- Sphylloplasms ที่ระบุเป็น low echoic lesion ที่ right lobe

- รวม Naureculosis, amoebic, H. coil และ Klesiella abscess น้ำเหลืองอาจมีผักพันภายในก้อนนั้น น้ำเหลืองอาจจะเป็นสีแดงหรือสีเขียวของเลือดช้าอาจได้

บทความของลิสราทฐานใน Liver abscess มีบาง ที่มีการทำการวิจัยใช้ข้อมูลด้านการ guide aspiration และ drainage ในแบบของกระเพาะ บางครั้ง abscess อาจมีลักษณะคล้าย necrotic tumor ซึ่งมีการรวมกัน ได้โดยตรง ต้องอาการประสาท การลุกตัว และการ ตรวจละเอียดอยู่ใน เช่น needle aspiration รวมทั้ง ฉีดยาเพื่อให้กลับคืนมาและจะต้องได้การวินิจฉัย ซึ่งดูถึง

REFERENCES