Lymph Node Biopsy in Infants and Children

A New Bedside Method

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Lymph nodes, which are involved in various diseases, offer an excellent and easily accessible tissue for diagnostic purposes. There have been reports of aspiration biopsy of lymph nodes by hypodermic injection needle (Bernhard et al., 1956; Dajani, Garcia, and Wolinsky, 1963; Stich, 1962) and by the Vim-Silverman biopsy needle (Crile and Vickery, 1952; Chandalia, 1960). Since Menghini’s biopsy needle is claimed to be safer for biopsy purposes, and cut biopsy is more useful than aspiration biopsy (Chandalia, 1960), we extended the use of this liver biopsy needle to lymph nodes.

Patients and Methods

One hundred and twenty-five patients (7 months to 15 years) with lymph node enlargement of varied aetiology attending the paediatric services of the General Hospital, Udaipur, were subjected to lymph node biopsy by the Menghini needle, at the bedside or in the out-patient department.

The technique is modified from that used for liver biopsy (Menghini, 1958; Hong and Schubert, 1960).

Biopsy tray. The contents of the biopsy tray are as follows. Menghini biopsy needle 1·4 mm.; rubber tube 6–8 mm. diameter, 35 cm. long, preferably collapsible; 2·5 cm., 23-gauge hypodermic needle; 2 ml. luer lock syringe; 10 ml. all glass syringe; Bard Parker scalpel curved blade No. 12, gauze pieces, towel, iodine, and spirit swabs.

Preceding needle biopsy, the biopsy tray is set up near the child. Menghini needle is cleaned, moistened with 1% procaine, and air dried. A nick about 3 mm. long is made in the skin. An intramuscular injection of 2 ml. of procaine, containing 3% adrenaline, is given as an hour before. The child is put in a sitting posture and the limb is flexed. The assistant handles the syringe. The operator inserts the needle through the incision into the subcutaneous tissue till he reaches the capsule of the gland. The assistant now pushes 0·5 ml. saline to clear


Lymph node biopsy in infants and children: a new bedside method. 134 needle biopsies of lymph nodes were carried out in 125 children using the Menghini needle. Biopsy was successful in 84% of cases. The method is practicable at the bedside and in the out-patient department. There were no significant complications. Histopathological findings were consistent with the diagnosis of tuberculosis in about 50% of the biopsies. In others chronic lymphadenitis, acute pyogenic lymphadenitis, and Hodgkin's disease were diagnosed. This is a simple, safe, quick, and minimally traumatic diagnostic method in lymphadenopathies, and is advocated for routine use before submitting the patient for surgical excision of a gland.

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TABLE

Results of Histopathological Examination

<table>
<thead>
<tr>
<th>Histopathological Diagnosis</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuberculous lymphadenitis</td>
<td>64</td>
</tr>
<tr>
<td>Chronic lymphadenitis</td>
<td>35</td>
</tr>
<tr>
<td>Caseated and necrosed material</td>
<td>9</td>
</tr>
<tr>
<td>Acute pyogenic lymphadenitis</td>
<td>8</td>
</tr>
<tr>
<td>Normal lymph node tissue</td>
<td>4</td>
</tr>
<tr>
<td>Hodgkin’s disease</td>
<td>2</td>
</tr>
<tr>
<td>Tissue inadequate for diagnosis</td>
<td>2</td>
</tr>
<tr>
<td>No lymph node tissue in piece</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>134</strong></td>
</tr>
</tbody>
</table>

Hence, a piece of lymph node tissue is required. The Menghini biopsy needle, which is claimed to be better than the Vim-Silverman needle (Menghini, 1958; Hong and Schubert, 1960; Sherlock, 1963), was used in this study. This method preserves the architecture of the lymph node for histological examination.

The results of the present study with a success rate of 84%, and without significant complication, are certainly encouraging. The procedure appears to be simple, safe, and does not require strong sedation or general anaesthesia. It can be performed at the bedside and in the out-patient department quickly and with a minimum of trauma to the lymph node, the child, and the parents.

The absolute failures in the present study were mainly because of the small size of the node. The partial failures were mainly due to aspiration of caseated and necrosed material. However, this drawback can be overcome by avoiding biopsy from large soft glands, and by selecting peripheral glands if a group of nodes is enlarged. Even when necrosed and caseated material is obtained in spite of these precautions, it should be submitted for histopathological examination, special staining, and culture.

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REFERENCES


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