Management of lymph node tuberculosis: Tunisian multicenter study

Rim Abdelmalek and Study group
Introduction

• Lymph node tuberculosis (LNT)
  – First extra-pulmonary location
  – Increasing all over the world

• Prevalence in Tunisia:
  – TBC: 28/100.000 inhabitants
  – LNT: 5/100.000 inhabitants
  – Under estimated

• No consensus on management:
  – Medical +/- chirurgical treatment?
  – Last of treatment?
Aim of study

• Have a better vision on LNT on Tunisia

• Identify actual situation
  – Management
  – Luck of queries about cases
Methods

• Retrospective study

• January 2001 - December 2010

• Four infectious diseases departements:
  – La Rabta hospital, Tunis
  – Military hospital, Tunis
  – Fahat Hached hospital, Sousse
  – Fattouma Bourguiba hospital, Monastir

• Data: SPSS 13.0, statistics with $X_2$
EPIDEMIOLOGY
General findings

• 480 patients
• Age: 42.3 years (3 – 90), median: 41
• 134 men (27.9%)
• 346 women (72.1%)
• Tuberculosis antecedent:
  – 39 cases (8.1%)
  – Lymph node location: 27 cases (69.2%)
Center distribution

- Rabta hospital: 381 cases (79.4%)
- Military hospital: 43 cases
- Farhat Hached hospital: 23 cases
- Fattouma Bourguiba hospital: 33 cases

http://www.infectiologie.org.tn
Geographic distribution

• North-West governorates
• Tunis because of
  • Migration
  • Human density

http://www.infectiologie.org.tn
Epidemiology

- Contagion: 48 cases (10%)
- BCG researched: 54 cases only
- Fresh milk consumption:
  - Yes: 102 cases (21.2%)
  - No: 16 cases
  - Not searched: 410 cases

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**Associated diseases**

- HIV infection : 27 cases (5.6%)
- Diabetes : 16 cases
- Tumoral disease : 14 cases
- Immunity disease : 13 cases
CLINICAL FINDINGS
Lymph node locations

Distribution of peripheral lymph nodes

- Cervical: 69
- Axillar: 254
- Inguinal: 30
- Crural: 7
- Epitrochlean: 3
- Double location: 2
- Three locations: 3

Distribution of peripheral and profound lymph nodes

- Peripheral lymph node: 27
- Profound lymph node: 67
- Peripheral and profound: 21
Lymph node number

- one: 48%
- two: 6%
- three: 3%
- many: 43%

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One symptom at least: 295 cases (61.5%)
DIAGNOSTIC TOOLS AND RESULTS
Mantoux test

- positive: 28%
- phlyctenular: 32%
- negative: 19%
- not precised: 21%

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### Cervical ultrasonography

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non done</td>
<td>345</td>
<td>71.9</td>
</tr>
<tr>
<td>Necroed LN</td>
<td>129</td>
<td>26.9</td>
</tr>
<tr>
<td>Non necroed LN</td>
<td>3</td>
<td>0.6</td>
</tr>
<tr>
<td>Normal</td>
<td>3</td>
<td>0.6</td>
</tr>
</tbody>
</table>
# Abdominal ultrasonography

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non done</td>
<td>220</td>
<td>45.8</td>
</tr>
<tr>
<td>Normal</td>
<td>177</td>
<td>38.5</td>
</tr>
<tr>
<td>Lymph node</td>
<td>48</td>
<td>10</td>
</tr>
<tr>
<td>Ascitis</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Liver lesion</td>
<td>3</td>
<td>0.6</td>
</tr>
<tr>
<td>Psoas abcess</td>
<td>4</td>
<td>0.8</td>
</tr>
<tr>
<td>Mass</td>
<td>4</td>
<td>0.8</td>
</tr>
<tr>
<td>Multiple findings</td>
<td>19</td>
<td>2.9</td>
</tr>
</tbody>
</table>
## Computed tomography

<table>
<thead>
<tr>
<th></th>
<th>number</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non done</td>
<td>360</td>
<td>75%</td>
</tr>
<tr>
<td>Done</td>
<td>120</td>
<td>25%</td>
</tr>
<tr>
<td>Profound lymph node only</td>
<td>64</td>
<td>53%</td>
</tr>
<tr>
<td>PLN and other location</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Other location</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

Fine needle aspiration

- 133 cases (27.7%)
- Features:
  - Necrosis : 83 cases
  - FAB : 21 cases
  - Culture : 10 cases
    - \(M. \text{tuberculosis}\) : 7 cases
    - Sensitive : 3 cases
    - Resistance to ETB or PZD or STR or ETHION: 4 cases

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Biopsy

• 371 cases (77.3%)

• Location

  – Lymph node : 334
  – Skin : 16
  – ORL : 6
  – Peritoneum : 6
  – Lymph node and other : 5
  – Liver : 2
  – bronchi : 1
Biopsy

- Necrosis : 344 (71.7%)
- Granuloma : 360 (75%)
- Direct exam : 4/30
- Culture : 4/24
  - *M. tuberculosis* 4/4
  - Resistant to ETB in one case, to strepto in one
Diagnosis

Microbiological evidence: 54 cases
- AFB: 32 cases
- Culture: 22 cases

http://www.infectiologie.org.tn
Treatment
Treatment

• All patients were treated
• Observance noted: 450 (93.8%)
• Molecules used:

<table>
<thead>
<tr>
<th>Molecules</th>
<th>Number of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRZE</td>
<td>430</td>
<td>89.6</td>
</tr>
<tr>
<td>HRZS</td>
<td>35</td>
<td>7.3</td>
</tr>
<tr>
<td>HRZC</td>
<td>14</td>
<td>2.9</td>
</tr>
<tr>
<td>HRZ</td>
<td>1</td>
<td>0.2</td>
</tr>
</tbody>
</table>
## Observance

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>116 (86.5%)</td>
<td>334 (96.5%)</td>
<td>450</td>
</tr>
<tr>
<td>No</td>
<td>18 (13.4%)</td>
<td>12 (3.6%)</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>134</td>
<td>346</td>
<td>480</td>
</tr>
</tbody>
</table>

Female were more observant. \( p = 0.000 \)
Treatment change

- Treatment change: 96 cases (20%)
- Change reason:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Patients number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side effects</td>
<td>77</td>
<td>80.2%</td>
</tr>
<tr>
<td>Aggravation</td>
<td>7</td>
<td>7.2%</td>
</tr>
<tr>
<td>No response</td>
<td>7</td>
<td>7.2%</td>
</tr>
<tr>
<td>Treatment adaptation</td>
<td>5</td>
<td>5.2%</td>
</tr>
</tbody>
</table>
Female changed their treatment more frequently than male.

\[ p = 0.042 \]
# Treatment duration

<table>
<thead>
<tr>
<th></th>
<th>Mean (months)</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Patients age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated</td>
<td>10.9</td>
<td>0.1</td>
<td>37</td>
<td>42.5</td>
</tr>
<tr>
<td>Associated</td>
<td>12.7</td>
<td>0.1</td>
<td>74</td>
<td>41.9</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td><strong>38.3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td><strong>43.8</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>≤ 12 months</th>
<th>&gt; 12 months</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated</td>
<td>256</td>
<td>59</td>
<td>315</td>
</tr>
<tr>
<td>Associated</td>
<td>113</td>
<td>52</td>
<td>165</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>369</strong></td>
<td><strong>111</strong></td>
<td><strong>480</strong></td>
</tr>
</tbody>
</table>

\[ p = 0.002 \]
Treatment duration intervals (months)

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Curative chirurgical treatment

- 38 cases: 7.9%

<table>
<thead>
<tr>
<th></th>
<th>Fistula</th>
<th>No fistula</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curative excision</td>
<td>13 (15.2%)</td>
<td>25 (6.3%)</td>
<td>38</td>
</tr>
<tr>
<td>No</td>
<td>72</td>
<td>370</td>
<td>442</td>
</tr>
<tr>
<td></td>
<td>85</td>
<td>395</td>
<td>480</td>
</tr>
</tbody>
</table>

Curative excision was more frequent with fistula. $p = 0.013$
Evolution
Fistulization: 85 cases (17.7%)
## Evolution

### Fistulisation

<table>
<thead>
<tr>
<th>Fistulisation</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>70</td>
</tr>
<tr>
<td>No</td>
<td>119</td>
<td>276</td>
</tr>
<tr>
<td>Total</td>
<td>134</td>
<td>346</td>
</tr>
</tbody>
</table>

\( p = 0.012 \)

### Evolution

<table>
<thead>
<tr>
<th>Evolution</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>recovery</td>
<td>79 (59%)</td>
<td>259 (74%)</td>
</tr>
<tr>
<td>lost</td>
<td>37 (27%)</td>
<td>41 (12%)</td>
</tr>
<tr>
<td>total</td>
<td>134</td>
<td>346</td>
</tr>
</tbody>
</table>

\( p = 0.008 \)

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http://www.infectiologie.org.tn
CONCLUSION
• LNT : difficult management

• Bacteriologic diagnosis must be improved
  – Fine needle aspiration
  – Use of new diagnosis tools
  – Bacteriologic study on biopsy pieces

• Treatment duration is long
  – Must we discuss curative chirurgical treatment in case of fistulization or aggravation?