Evaluation of cases of interstitial lung disease in children

Dr. Hitesh Kumar

DOI: [https://doi.org/10.33545/26643685.2018.v1.i1a.2](https://doi.org/10.33545/26643685.2018.v1.i1a.2)

Abstract

**Background:** The term childhood interstitial lung disease encompasses a broad group of pulmonary disorders. The present study aimed to evaluate interstitial lung disease in children.

**Materials & Methods:** The present study was conducted on 78 children age ranged 4-10 years. Patients were divided into two major groups - 'definite ILD' and 'possible ILD' based on their clinical features, results of noninvasive tests such as X-ray and HRCT, and results of invasive tests like bronchoscopy and biopsy. In all patients, clinical feature were recorded.

**Results:** 42 had definite ILD and 36 had possible ILD. Common clinical features were cough seen in 63 followed by hemoptysis in 41, pallor in 29, clubbing in 28, dyspnea in 26, crepitus and murmur in 7 each. The difference between definite ILD and possible ILD was significant (P< 0.05).

**Conclusion:** Among ILD, definite ILD was seen in 42 and possible ILD in 36. Common clinical features were cough, hemoptysis, pallor, clubbing, dyspnea, crepitus and murmur.

**Keywords:** clubbing, interstitial lung disease, murmur

Introduction

The term childhood interstitial lung disease (Child) encompasses a broad group of pulmonary disorders that are associated with significant morbidity and sometimes mortality [1]. Historically, these diseases have been defined based on lung biopsy histopathologic findings. However, recent advances have facilitated increased noninvasive diagnosis through genetic testing and use of chest computed tomography (CT) scans [2].

The term “interstitial” is, however, misleading, as most of these conditions are associated with abnormalities that are not limited to the lung interstitium but extend to the alveolar and airway compartments. Although it could be argued that “diffuse lung disease” is a better term, the term “child” is in fact now well established in the literature [3].

The outcome of children with ILD in terms of death and disease-free survival is reported to be 15- 60% and 50%, respectively. The available data on the clinical profile of children with ILD mostly come from small case series that included less than 30 children. Also, many of these reports had focused on one or more specific conditions such as fibrosing alveolitis or desquamative interstitial pneumonitis (DIP) rather than looking at the complete spectrum of ILD [4].

Children with ILD typically manifest non-specific respiratory signs and symptoms, including tachypnea, hypoxemia, crackles, cough, and poor growth. Because these symptoms overlap those seen in many more common conditions, the first step in diagnostic evaluation is to exclude more common causes of diffuse lung disease (i.e. cystic fibrosis, immunodeficiency, congenital heart disease, pulmonary infection, primary ciliary dyskinesia, and recurrent aspiration) [5]. The present study aimed to evaluate interstitial lung disease in children.

**Materials & Methods**

The present study was conducted in the department of Pediatrics. It comprised of 78 children age ranged 4-10 years. The study protocol was approved form institutional ethical committee. Informed written consent was obtained from all parents.

Information regarding name, age, gender etc. was recorded. Patients were divided into two major groups - ‘definite ILD’ and ‘possible ILD’ based on their clinical features, results of noninvasive tests such as X-ray and HRCT, and results of invasive tests like bronchoscopy and biopsy. In all patients, clinical feature were recorded. Results were tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.
Results

Table 1: Distribution of patients

<table>
<thead>
<tr>
<th>Types</th>
<th>Definite ILD</th>
<th>Possible ILD</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>42</td>
<td>36</td>
<td>78</td>
<td></td>
</tr>
</tbody>
</table>

Table I shows that 42 had definite ILD and 36 had possible ILD.

Table 2: Clinical features in patients

<table>
<thead>
<tr>
<th>Clinical features</th>
<th>Definite ILD</th>
<th>Possible ILD</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough</td>
<td>36</td>
<td>27</td>
<td>63</td>
<td>0.01</td>
</tr>
<tr>
<td>Hemoptysis</td>
<td>23</td>
<td>18</td>
<td>41</td>
<td>0.02</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>12</td>
<td>14</td>
<td>26</td>
<td>0.51</td>
</tr>
<tr>
<td>Pallor</td>
<td>16</td>
<td>13</td>
<td>29</td>
<td>0.78</td>
</tr>
<tr>
<td>Clubbing</td>
<td>18</td>
<td>10</td>
<td>28</td>
<td>0.01</td>
</tr>
<tr>
<td>Crepitus</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>0.02</td>
</tr>
<tr>
<td>Murmur</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Table II, graph I shows that common clinical features were cough seen in 63 followed by hemoptysis in 41, pallor in 29, clubbing in 28, dyspnea in 26, crepitus and murmur in 7 each. The difference between definite ILD and possible ILD was significant (P<0.05).

Table II, graph I shows that common clinical features were cough seen in 63 followed by hemoptysis in 41, pallor in 29, clubbing in 28, dyspnea in 26, crepitus and murmur in 7 each. The difference between definite ILD and possible ILD was significant (P<0.05).

Conclusion

Among ILD, definite ILD was seen in 42 and possible ILD in 36. Common clinical features were cough, hemoptysis, pallor, clubbing, dyspnea, crepitus and murmur.

References