INTRODUCTION
Haemoptysis is defined as the expectoration of blood derived from the lungs or bronchial tree as a result of pulmonary or bronchial haemorrhage. In most cases (90%), haemoptysis originates from the systemic arterial circulation (bronchial arteries), whereas in five percent it originates from the pulmonary arterial circulation. Haemoptysis is often an alarming symptom. Expectoration of even relatively small amount of blood is an alarming symptom and can be a marked for potentially dangerous disease like bronchogenic carcinoma. Massive haemoptysis into airway is an imminent threat to life because asphyxiation occurs as the tracheobronchial tree is flooded with blood. Therefore the presence of haemoptysis of any degree always required thorough evaluation.

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Haemoptysis is not a disease entity but a nonspecific symptom of underlying respiratory and non-respiratory diseases and occurs in wide variety of diseases and poses a great diagnostic challenge. The ethology for haemoptysis varies among different series according to time of publication, the geographic location, and the diagnostic tests employed. The effective control of tuberculosis in western countries has contributed to this change. Patients presented with haemoptysis are almost considered to be due to tuberculosis in India and are often prescribed anti-tuberculous treatment without proper evaluation. Identifying the aetiology of haemoptysis and classifying it in terms of severity is important in defining the treatment and deciding whether hospitalization is necessary or not. The purpose of the study was to evaluate the relative frequency of different causes of haemoptysis, to classify it in terms of severity and the outcome.

METHODS
This prospective study was carried out in Respiratory Medicine Department of P. D. U. Medical College, Rajkot. Total 50 adult patients presented with haemoptysis were enrolled during the period no November...
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2008 to April 2009. Patients with bleeding form upper respiratory tract or gastrointestinal tract, with bleeding diathesis and on anticoagulant or antiplatelet drugs were excluded from the study. All patients underwent a detailed history and thorough clinical examination and were subjected for suitable investigations. All patients were hospitalized for further evaluation and management. Amount of haemoptysis was measured in the hospital by medical staff. The severity of haemoptysis was classified according to the amount of blood expectorated in 24 hours, Mild: < 100 ml, Moderate: 100–400 ml, Severe: > 400 ml.\(^5\) ENT examination was carried out in doubtful cases to rule out upper respiratory tract bleed. Dental examination was undertaken when needed. In suspected cases, coughed out blood was examined for its colour and food particles, and Ryle’s tube aspiration was undertaken to confirm the diagnosis. Complete haemogram, sputum examination for AFB and Chest X-ray PA and lateral view was carried out in all patients. HRCT, ECG, ECHO, Bleeding profile, Laryngoscopy, Bronchoscopy and other tests were carried out when required. Diagnosis was made after thorough clinical evaluation and appropriate investigations as mentioned above. All patients were treated conservatively initially with anti-tussive, sedatives and antibiotics. In massive haemoptysis, plasma expanders and blood transfusion were given.

RESULTS

Table 1: Aetiological distribution of patients with haemoptysis

<table>
<thead>
<tr>
<th>Aetiology</th>
<th>No. of patients</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active pulmonary tuberculosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cavitary</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Non cavitary</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Old pulmonary tuberculosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fibrocalcified</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Calcified</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Bronchogenic carcinoma</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Bronchiectasis</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Mitral stenosis</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Cryptogenic</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Total 50 patients were enrolled in the present study. Out of 50 patients, 86% were male and 14% were female. Mean age was 40.3 ± 13.74 years. Aetiological distribution of patients has been given in Table 1.

Tuberculosis was associated in 60% of the patients with 38% of the patients having active pulmonary tuberculosis while 22% of the patients had old pulmonary tuberculosis. 46% patients were from rural areas while 54% were from urban area. Majority of patients (52%) were heavy labourer followed by moderate labourer (30%) and sedentary work (18%). Onset of haemoptysis was sudden in majority of the patients (66%). Majority of the patients (60%) had mild haemoptysis while moderate haemoptysis was present in 32% of patients and only four patients (8%) had severe haemoptysis. Aetiology of severe haemoptysis was active pulmonary tuberculosis, cystic bronchiectasis, lung cancer and mitral stenosis. Only 28% of patients were in working position at the time of onset of haemoptysis. 38% of patients were presented with first attack of haemoptysis. Haemoptysis was stopped within one to three days in majority of the patients (54%). In 30% of patients it was stopped between four to seven days. So, overall in 84% of patients it was stopped within seven days. Sputum were positive for AFB in 32% of patients.

DISCUSSION

The incidence of haemoptysis is influenced by several factors such as geographic area and the institution where the research is conducted. In our study pulmonary tuberculosis was most common cause of haemoptysis. Etiological pattern of haemoptysis has changed in the developed countries, with pulmonary tuberculosis is becoming less important as a cause.\(^6\) However in developing countries, pulmonary tuberculosis is still to be the major cause of haemoptysis.\(^7\)–\(^9\). In India, Pulmonary tuberculosis was the most common cause of haemoptysis in earlier study\(^10\) and it's still the leading cause of haemoptysis evident from the present study and other recent study\(^8\) in which tuberculosis was found in 79.2% of patients. Although tuberculosis is the major cause of haemoptysis, it does not imply that active tuberculosis is...
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Haemoptysis may occur even after the disease has been apparently cured. A quite significant number of patients have inactive tuberculosis as evident by the present study where out of 30 patient with tuberculosis 36.67% of patients had inactive pulmonary tuberculosis and other recent study also where 39% of patients had inactive pulmonary tuberculosis. In patients with inactive pulmonary tuberculosis, anti-tuberculous treatment does not required and only conservative management is necessary to control the bleeding.

Bronchogenic carcinoma was the secondmost common cause for the haemoptysis after tuberculosis in our study which is similar to the findings of other study from India. Studies from developed countries have also shownmalignancy to be the leading reasons for haemoptysis. Pneumonia also had a prominent position among the infectious causes of haemoptysis in this study, accounting for 10% of the patients. Other study have also shown pneumonia as one of the four main caused of haemoptysis, which accounted for 16% of the cases. Bronchiectasis was found in 4% of the patients in present study which was similar to other recent study where it was 3.8%. But if we compare it with earlier study the incidence of bronchiectasis seems to have declined. Majority of the patients (92%) in the present study was presented with mild to moderate haemoptysis and only 8% of patients had severe haemoptysis. One group of authors reported a similar result with 90.6% presented with mild or moderate haemoptysis and 9.4% presented with massive haemoptysis.

CONCLUSION
Although pulmonary tuberculosis is still the most important cause of haemoptysis in India and other developing countries, it does not always reflect underlying pulmonary tuberculosis. It may be because of other causes or may be because of inactive pulmonary tuberculosis also. Hence anti-tuberculous treatment should not be started without proper diagnostic workup.

REFERENCES