Evaluation of Side Effects and Safety Profile of Liver Biopsy

Abstract

**Background and Objectives:** To evaluate the complication and indications of liver biopsy as a fundamental part of chronic liver disease investigation in GI ward of Ahvaz Imam Hospital in a 3 years period.

**Materials and Methods:** By evaluating the archive of Ahvaz Imam Hospital for files of liver biopsies.

**Results:** Overall 214 liver biopsies have been performed in a 3 years period. 56% of patients were male. Average age was 38.5 y (9 To 81) and 33.3% were current or ex-smoker. The most common reasons of referring patients for liver biopsy were rising of liver transaminases (27.6%), HCV (17.6%), AIH (16.6%) and HBV (15.7%). The most common comorbidities included: HBV (16.4%), HCV (12.1%), diabetes Mellitus (3.7%), and major thalassemia (3.7%). Overall 17 patients (7.9%) complicated mostly with minors including local pain at site of biopsy (11 patients, 5.1%). Major complication happened in Only 4 patients (2%) and almost all of them managed conservatively (except one who need chest tube for managing pneumothorax). There was no mortality at all. 88% of complications happened immediately after or during 3 hours of liver biopsy and the rest of them were apparent up to 6 hours after biopsy. The specimen was sufficient in 96.3% of cases.

**Conclusion:** Liver biopsy could be achieve safely by accurate clinical examination and advertent patient selection without any significant hazard.

**Keywords:** Liver Biopsy; Complication; Liver Transaminases; AIH

Introduction

Liver biopsy consider impractical and dangerous procedure until introduction of aspiration technique in 1950 [1]. Since that time, technologic improvement has enhanced this procedure and liver biopsy evolved to practical and safe procedure for evaluating liver and many liver biopsies are performing annually by hepatologists and or radiologists around the world [2].

Traditionally liver biopsy has been the gold standard in evaluation of chronic liver diseases and just recently few technics of assessing liver fibrosis have replaced liver biopsy in some instances [2]. Although the etiology of most of chronic liver diseases could be diagnosed by available biochemical, serologic, immunologic and molecular examination but histologic evaluation still has a close relation to treatment and control of chronic liver diseases [3] and in fact liver biopsy and histologic evaluation constitute an important part of control and monitoring of chronic liver diseases [4].

In practical hepatology the prerequisite for performing liver biopsy is not only consideration of standard technique but also ability to estimate the potential hazards and complications and notification to the degree of information and clinical clues gathered by biopsy and also if any modification or change in clinical approach based on histologic information [5,6]. On the other hand, the rate of liver biopsy complication in any center depends on their experience and number of biopsies performing per week as the rate of complication among physicians with experience of less than 20 biopsies has been reported 3.2% in comparison with 1.1% among the ones with more than 100 cases [7] and generally the rate of liver biopsy mortality has been reported about 0.1 to 0.01% [8-11]. In this study we have evaluated the complication and indications of liver biopsy in GI ward of Ahvaz Imam Hospital in a 3 years period (2010-2012).

Materials/Patients and Methods

By refer to archive of Imam Hospital and evaluation of files of patients admitted for liver biopsy from 2010 January to 2012 December, the DATAs recorded and in case of inconclusive or incomplete file, we contact with patients and asked them to bring their documents. After collection of all cases, the DATAs analyzed by statistician.

**Results**

Overall in a 3 years period 214 liver biopsies performed in GI ward (120 male, 94 female). Average age was 38.5 y (9 To 81). 33.3% of patients were current or ex-smoker. The most common reasons of referring patients for liver biopsy were rising of liver transaminases (27.6%), HCV (17.6%), AIH (16.6%) and HBV evaluation (15.7%) respectively (Table 1). In review of patient’s past medical history, the most common comorbidities included: HBV (16.4%), HCV (12.1%), diabetes Mellitus (3.7%), and major...
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The obtained specimen was sufficient in 96.3% of cases which can prove the efficacy of percutaneous liver biopsy and importance of exact clinical examination before biopsy. In these cases, using clinical expertise and focus on percussion is the keystone of a safe and exact percutaneous liver biopsy.
Table 3: Complication after liver biopsy (some patients involved by >1 complication).

<table>
<thead>
<tr>
<th>Complication</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain at site of Biopsy</td>
<td>11</td>
<td>5.1%</td>
</tr>
<tr>
<td>Abdominal Pain</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td>Hb Drop</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Hemobilia</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Hemoptysis and Pneumothorax</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Convulsion</td>
<td>1</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Conclusion

Liver biopsy is an important and impartible part of clinical hepatology which could be achieve safely by accurate clinical examination and advertent patient selection without any significant hazard. It is advisable to clinical hepatologists to lower their threshold for performing liver biopsy especially in management of chronic liver diseases.

References
