

## **ABSTRACT**

**TITLE:** “Assessment of yield and procedural complication rate in patients undergoing Transjugular liver biopsy (TJLB): A prospective study”

### **AIMS AND OBJECTIVES:**

Primary aim was to assess the intra and post procedural complication rate in patients undergoing transjugular liver biopsy.

To determine the technical success and efficacy rate of TJLB.

### **METHODS:**

This is a hospital based prospective, observational study approved by the Institutional Research Board (IRB). A total of 70 patients who underwent TJLB during the study period between May 2015 to July 2016 were assessed for intra and post procedural complications. Screening techniques included clinical, radiological and lab parameters. The complications were categorised into minor and major complications according to Society of Interventional Radiology criteria (SIR). Technical success and adequacy of the biopsy sample were also determined based on clinico-pathological correlation.

### **RESULTS:**

Seventy patients who underwent TJLB were studied. Study population included patients between 11 to 75 years of age. Of the 70 patients who underwent TJLB, 39 were male and 31 were female.

Common indications for TJLB were thrombocytopenia (33 patients) followed by deranged bleeding parameters (25 patients), ascites (21 patients) and renal failure (18 patients). Some of the patients had multiple indications. 65 patients had right internal jugular venous access and 5 patients had left internal jugular venous access. There was increased risk of complications in patients with multiple indications (Chi square – 3.88, p value – 0.049). Female gender was found as a protective factor from complications. There is no significant statistical correlation between complication rates and age, side of IJV access, transfusions and individual indication for the procedure.

Total complication rate in patients undergoing TJLB was found to be ~ 25.7 % (18 patients). 17 patients (24.3 %) had minor complications as per Society of Interventional Radiology criteria (1). 1 patient had major complication (1.4%) in the form of intra-abdominal bleed with significant drop in haemoglobin levels, post TJLB requiring blood transfusion. Minor complications seen were moderate neck pain (3 patients, 4.3%), moderate abdominal pain (1 patient, 1.4%), elevated temperature, 100-102 deg F (2 patients, 2.9%), intra-abdominal bleed (low suspicion – 5 patients, 7.1% & high suspicion – 9 patients, 12.9%), hypertension (5 patients, 7.1%) and transient ventricular arrhythmia (1 patient, 1.4%) which was self-limiting. There was no mortality attributable to TJLB during this study.

TJLB was possible in all the patients who were posted for the procedure. Technical success which was defined as sample length more than or equal to 10 mm was achieved

in 84.3 % of patients (59 patients). The median length of sample size was 16 mm. Adequacy of the sample which was defined as 5 or more complete portal tracts or whenever histopathological analysis was contributory to the diagnosis was achieved in 87% of the patients.

## **CONCLUSION:**

Transjugular liver biopsy (TJLB) is an innovative way of performing liver biopsy when percutaneous route is considered unsafe. It has a very high technical success and efficacy rate. The complication rate seen in this prospective study was 25.7% (18 patients) which was comparable with other prospective studies. Patients with multiple indications for TJLB had higher complication rates as compared to patients with single indication. TJLB is superior to other methods of liver biopsy in view of assessment of hepatic wedge pressure for evaluating portal hypertension and its pharmacological response. There was no mortality attributable to TJLB during this study.

## **KEYWORDS**

Transjugular liver biopsy (TJLB), Complication rate, Prospective study, Technical success rate, Efficacy rate, Society of Interventional Radiology (SIR)