

PSORIASIS

## CASE-CONTROL STUDY TO IDENTIFY PREDICTORS OF SIGNIFICANT LIVER FIBROSIS IN PATIENTS WITH PSORIASIS AS DETECTED BY TRANSIENT ELASTOGRAPHY

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**Introduction:** Psoriasis, a chronic inflammatory disease has been associated with metabolic syndrome (MS). Many international guidelines suggest that methotrexate use, especially after a certain calculate total cumulative dose poses a significant risk to the development of liver fibrosis in these patients.

**Objective:** To identify and estimate the risk conferred by methotrexate and other possible factors towards the development of significant liver fibrosis in our psoriasis population. To test the accuracy of cheaper non-invasive tests such as AST to Platelet Ratio Index (APRI), Fibrosis-4 (Fib4) index, and NAFLD (Non-Alcoholic Fatty Liver Disease) Fibrosis score in comparison to transient elastography.

**Materials and Methods:** One hundred and fifty nine consecutive patients with moderate to severe psoriasis were assessed for the presence of liver fibrosis using transient elastography and non-invasive scores. Based on the presence of significant liver fibrosis (LSM  $\geq 7$ , corresponding to F2 fibrosis or higher), Odd's Ratio (OR) associated with various factors such as alcohol intake, methotrexate exposure, MS, hypertension, diabetes, etc. was calculated using logistic regression analysis. Receiver Operating Characteristic (ROC) curves were calculated to find maximal cut-off values of APRI, NAFLD score and Fib-4 index to detect fibrosis.

**Results:** Significant fibrosis was seen in 33 (24.6%) patients. Neither methotrexate exposure nor total cumulative dose of  $\geq 1.5$  was associated with significant fibrosis. Male sex ( $p=0.024$ ) and presence of MS ( $p=0.034$ ) were the only variables associated with significant liver fibrosis. On logistic regression analysis, O.R. for male gender and metabolic syndrome was estimated to be 2.51 (95% CI - 1.09-5.81) and 2.33 (95% CI - 1.03-5.27)



respectively. APRI, NAFLD score and Fib-4 index had low accuracy in comparison to transient elastography.

Conclusion: MS and male gender are the most important risk factors for development of significant liver fibrosis in psoriasis patients. Methotrexate exposure does not seem to predict presence of liver fibrosis.

