**Original article**

**UDC: 615.252.349.7:616.36-008.9**
**doi: 10.5633/amm.2025.0305**

# THE EFFECT OF METFORMIN ON BIOCHEMICAL PARAMETERS IN PATIENTS WITH METABOLIC DYSFUNCTION-ASSOCIATED STEATOTIC LIVER DISEASE

*Vesna Brzački[1,2], Marko Stojanović[2,3], Andrija Rančić[2,3], Milica Bjelaković[2,3]*

Metabolic dysfunction-associated steatotic liver disease (MASLD) is the most common form of chronic liver disease in the modern world. The importance of this condition is that it can progress to nonalcoholic steatohepatitis, which increases the risk of developing liver cirrhosis and hepatocellular carcinoma. The study aimed to examine the effects of metformin on achieving positive biochemical responses in patients with MASLD. The study included 146 patients, 96 men and 50 women, with MASLD diagnosed by ultrasound. Biochemical analyses were performed as well. The values of all parameters were measured at baseline, after three and after six months of therapy. On each visit, the body weight and body mass index (BMI) were obtained. All patients at baseline received 750 mg of metformin twice a day. There was a reduction in body weight, which was statistically significant after six months. The BMI decrease reached no statistical significance. Liver enzyme values showed a significant decrease in values relative to baseline after three and six months of metformin therapy. Serum cholesterol and triglyceride levels were reduced during treatment with metformin, and changes reached statistical significance at six months relative to baseline. There was a statistically significant decrease in the Homeostatic Model Assessment for Insulin Resistance (HOMA-IR) value after three and six months compared to baseline. Results showed that metformin may be an appropriate addition to diet, weight reduction, and physical activity, as it led improvements in metabolic parameters, with minimal adverse events and good tolerance of therapy.

*Acta Medica Medianae 2025;64(3): 41–46.*

***Key words:*** *metabolic dysfunction-associated steatotic liver disease metformin, body mass index*