QANDLI DIABET 2 TUR BEMORLARDA METABOLIK ASSOTSIRLANGAN JIGAR YOG` KASALLIGI FONIDA JIGAR FIBROZI TARQALISHI VA UNING KLINIK AHAMIYATI

Ismatullayeva Mohina Ulug`bek qizi., Ergashova Shahnoza Erkinovna, PhD.

Ismatullayeva Mohina Ulug`bek qizi mohinaulugbekovna@gmail.com https://orcid.org/0009-0006-9872-194X

Akademik Y. X. To'raqulov nomidagi Respublika ixtisoslashtirilgan endokrinologiya ilmiy amaliy tibbiyot markazi, Toshkent, 100125, O'zbekiston.

Dolzarbligi: QD 2 tur bilan kasallangan bemorlarning 60-70% ida metabolik assotsirlangan jigar yog` kasalligi aniqlanadi**.** QD 2 tur bemorlarda jigar fibrozi rivojlanish xavfi sog`lom populyatsiyaga nisbatan bir necha barobar yuqori bo`lib, klinik ahamiyatli fibroz 20-30% bemorlarda aniqlangan**.** MAJYK va jigar fibrozi yurak-qon tomir kasalliklari, surunkali buyrak kasalligi hamda umumiy o`lim xavfini oshirishi isbotlangan.

Maqsadi: Qandli diabet 2 tur bemorlarda MAJYK fonida jigar fibrozi tarqalishini o`rganish, bemorlar orasidan jigar sirrozi rivojlanishi xavf guruhiga kiruvchilarni ajratish, jigar sirrozini erta tashxislash uchun noinvaziv skrining usulini targ`ib qilish.

Tadqiqot materiallari va usullari: Tadqiqotda RIEIATM da statsionar davo olgan 80 nafar QD 2 tur bilan kasallangan bemorlar ishtirok etdi. Bemorlarda umumklinik tekshiruvlar (Yoshi, diabet staji, tana vazni, bo'yi, tana vazni indeksi (TVI)), laborator tahlillar (nahorgi glikemiya, post prandial glikemiya, glikirlangan gemoglobin, kengaytirilgan lipid spektri, GGT, ALT, AST, umumiy bilirubin) o`tkazildi va jigar fibrozi rivojlanish xavf guruhini ajratish maqsadida FIB-4 kalkulyator yordamida birlamchi skrining o`tkazildi. Qandli diabet davomiyligi ham hisobga olindi. Olingan ma'lumotlar statistik usullar yordamida qayta ishlanib, MAJYK da fibroz xavfi va metabolik ko'rsatkichlar o'rtasidagi bog'liqlik o'rganildi.

Natija va muhokama: Barcha bemorlarning 46 nafari (57,5%) ayol kishi va 34 nafari (42,5%)ni erkak kishi, o'rtacha yoshi 58,5±1,2 yosh, o`rtacha tana vazni 83,8±1,6 tashkil qildi. O`rtacha kasallik davomiyligi 9,2±0,7 yil. Tana vazni indeksi analizi ortiqcha tana vazniga ega bo`lgan bemorlar ko`pligini ko`rsatib, 38,75% tashkil qildi. O`kazilgan tadqiqot natijalariga ko`ra, QD 2 tur bilan kasallangan bemorlarda MAJYK keng tarqalganligi aniqlandi. FIB-4 kalkulyator yordamida o`tkazilgan skrining ALT/AST ko`rsatkichlari normal bo`lgan bemorlar orasida ham jigar fibrozi xavfi borligini ko`rsatdi. Ishtirokchilar orasida FIB-4 ko`rsatkichlarining kategoriyalar bo`yicha taqsimoti: 71 nafar (88,75%) bemorda <1,3 (65 yoshdan oshgan bemorlar uchun <2,0) (fibroz xavfi past), 7 nafar (8,75%) bemorda 1,3 (2,0)-2,67 (fibroz xavfi o`rta), 2 nafar 2,5% bemorda >2,67 (fibroz xavfi yuqori) ko`rsatdi. Tahlillar shuni ko`rsatdiki QD 2 tur bemorlar orasida MAJYK keng tarqalgan va bu esa keyinchalik jigarda fibroz rivojlanishiga sabab bo`ladi. MAJYK insulin rezistentligini kuchaytirishi, QD kechishini og`irlashtirishi, qolaversa MAJYK oqibatida rivojlangan jigar sirrozi bemorlar hayot sifatini yana yomonlashtirishi va hayot davomiyligini kamaytirishi mumkin. Shu bois QD 2- tur bemorlarda MAJYK aniqlanganda laborator tahlillar bilan bir qatorda FIB-4 kalkulyatorni qo`llash bemor holatini baholashda muhim diagnostik ahamiyatga ega. Natijalar jigar fibrozini erta aniqlash, xavf guruhini ajratishda muhim ekanligini ko`rsatadi.

Xulosa: FIB-4 kalkulyator yordamida o`tkazilgan baholash natijalari QD 2 tur bilan kasallangan bemorlarda MAJYK oqibatida jigar fermentlari me`yoriy ko`rsatkichlarda saqlanganda ham jigarda fibroz rivojlanishi mumkinligini ko`rsatdi.

PREVALENCE OF LIVER FIBROSIS AND ITS CLINICAL SIGNIFICANCE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS ON THE BACKGROUND OF METABOLIC DYSFUNCTION-ASSOCIATED STEATOTIC LIVER DISEASE

Ismatullaeva Mokhina Ulugbek kizi, Ergashova Shakhnoza Erkinovna, PhD

Republican Specialized Scientific and Practical Medical Center of Endocrinology named after Academician Yo.Kh. Turakulov, Tashkent, 100125, Uzbekistan.

mohinaulugbekovna@gmail.com,https://orcid.org/0009-0006-9872-194X,
Ergashova9009@mail.ru, https://orcid.org/0000-0003-3338-3282

Abstract:

Background: Metabolic dysfunction-associated steatotic liver disease (MASLD) is detected in approximately 60–70% of patients with type 2 diabetes mellitus (T2DM). Patients with T2DM have a significantly higher risk of developing liver fibrosis compared to the healthy population, while clinically significant fibrosis is identified in nearly 20–30% of cases. The coexistence of MASLD and liver fibrosis increases the risk of cardiovascular diseases, chronic kidney disease, and overall mortality.

Objective: To investigate the prevalence of liver fibrosis in patients with type 2 diabetes mellitus with underlying MASLD, identify patients at high risk for liver cirrhosis, and promote non-invasive screening methods for early diagnosis of liver fibrosis.

Materials and Methods: The study included 80 hospitalized patients with T2DM treated at the Republican Specialized Scientific and Practical Medical Center of Endocrinology. General clinical assessments included age, diabetes duration, body weight, height, and body mass index (BMI). Laboratory investigations comprised fasting plasma glucose, postprandial glucose, glycated hemoglobin (HbA1c), extended lipid profile, gamma-glutamyl transferase (GGT), alanine aminotransferase (ALT), aspartate aminotransferase (AST), and total bilirubin. Primary screening for liver fibrosis risk was performed using the FIB-4 calculator. Statistical analysis was conducted to evaluate the relationship between fibrosis risk and metabolic parameters.

Results: Among all participants, 46 (57.5%) were women and 34 (42.5%) were men. The mean age was 58.5±1.2 years, mean body weight was 83.8±1.6 kg, and mean diabetes duration was 9.2±0.7 years. Increased body weight and overweight prevalence were observed in 38.75% of patients. The study demonstrated a high prevalence of MASLD among patients with T2DM. FIB-4-based screening revealed the presence of liver fibrosis risk even in patients with normal ALT and AST levels. According to FIB-4 categories, 71 patients (88.75%) had low fibrosis risk, 7 patients (8.75%) had intermediate risk, and 2 patients (2.5%) had high fibrosis risk. The findings suggest that MASLD is highly prevalent in T2DM patients and contributes to the

progression of liver fibrosis. MASLD may worsen insulin resistance, aggravate diabetes progression, and reduce both quality of life and life expectancy due to cirrhosis-related complications.

Conclusion: Assessment using the FIB-4 calculator demonstrated that liver fibrosis may develop in patients with T2DM and MASLD even when liver enzyme levels remain within normal ranges. The use of non-invasive fibrosis screening tools is important for early detection and identification of high-risk patients.

Keywords

Type 2 diabetes mellitus; MASLD; MAFLD; non-alcoholic fatty liver disease; liver fibrosis; FIB-4; insulin resistance; liver cirrhosis; metabolic syndrome; non-invasive screening.