

**HORMONAL AND GENETIC MECHANISMS OF METABOLIC-
ASSOCIATED STEATOTIC LIVER DISEASE IN WOMEN OF
REPRODUCTIVE AGE**

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Abstract. Metabolic-associated steatotic liver disease is currently one of the most pressing issues in hepatology and metabolic medicine. In addition to insulin resistance, obesity, dyslipidemia, and chronic low-grade inflammation, hormonal imbalance and genetic factors also play a significant role in the development of this disease. In particular, in women of reproductive age, special importance is attributed to estrogens, androgens, sex hormone-binding globulin, the aromatase system, as well as genes associated with steroid metabolism.

Keywords: metabolic-associated steatotic liver disease, reproductive age, estrogens, androgens, SHBG, CYP19A1, UGT2B15, UGT2B17, polycystic ovary syndrome, insulin resistance.

**REPRODUKTIV YOSHDAGI AYOLLARDA METABOLIK BOG‘LIQ
STEATOTIK JIGAR KASALLIGINING GORMONAL-GENETIK
MEXANIZMLARI**

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Annotatsiya. Metabolik bog‘liq steatotik jigar kasalligi bugungi kunda gepatologiya va metabolik tibbiyotning dolzarb muammolaridan biri hisoblanadi. Ushbu kasallik rivojlanishida insulinrezistentlik, semizlik, dislipidemiya va surunkali past darajadagi yallig‘lanish bilan bir qatorda, gormonal muvozanat hamda genetik omillar ham muhim o‘rin tutadi. Ayniqsa, reproduktiv yoshdagi ayollarda estrogenlar, androgenlar, jinsiy gormonlarni bog‘lovchi globulin, aromataza tizimi hamda steroid almashinuvi bilan bog‘liq genlarning roli alohida ahamiyat kasb etadi.

***Kalit so‘zlar:** metabolik bog‘liq steatotik jigar kasalligi, reproduktiv yosh, estrogenlar, androgenlar, SHBG, CYP19A1, UGT2B15, UGT2B17, tuxumdonlar polikistoz sindromi, insulinrezistentlik.*

Metabolik bog‘liq steatotik jigar kasalligi patogenezi ko‘p omilli bo‘lib, unda insulinrezistentlik markaziy patogenetik bo‘g‘in hisoblanadi. Insulinning biologik ta’siri susayishi natijasida yog‘ to‘qimasidan erkin yog‘ kislotalari oqimi ortadi, gepatotsitlarda lipogenez kuchayadi, mitoxondrial oksidlanish buziladi va oksidlovchi stress zo‘rayadi. Shu bilan birga, adipokinlar muvozanatining buzilishi, ichak-jigar o‘qi faoliyatidagi o‘zgarishlar, surunkali yallig‘lanish va fibrogenez ham kasallik progressiyasiga hissa qo‘shadi.

Reproduktiv yoshdagi ayollarda ushbu kasallikning shakllanishida gormonal fon muhim rol o‘ynaydi. Estrogenlar odatda nisbatan himoyalovchi metabolik profilni ta’minlaydi, biroq giperandrogenizm, SHBG darajasining pasayishi, insulinrezistentlik va tuxumdonlar polikistoz sindromi mavjudligida bu himoya susayadi. Natijada jigar steatozi, transaminazalar oshishi va fibroz xavfi ortadi. Shu sababli ushbu toifadagi bemorlarda kasallikni faqat ortiqcha vazn yoki biokimyoviy ko‘rsatkichlar bilan baholash yetarli emas.

Steroid metabolizmiga aloqador SHBG, CYP19A1, UGT2B15 va UGT2B17 genlari reproduktiv yoshdagi ayollarda metabolik bog‘liq steatotik jigar kasalligining

gormonal-genetik mexanizmlarini tushunishda istiqbolli markerlar hisoblanadi. SHBG darajasining pasayishi erkin androgenlar ulushining oshishiga olib kelib, metabolik va gepatik noqulay o'zgarishlarni kuchaytiradi. CYP19A1 geni aromataza fermentini kodlab, estrogen-androgen muvozanatini boshqarishda ishtirok etadi. UGT2B15 va UGT2B17 genlari esa androgenlarning glyukuronidlanish jarayoniga ta'sir ko'rsatib, gormonal gomeostaz va metabolik xavfga bilvosita hissa qo'shishi mumkin.

Shunday qilib, reproduktiv yoshdagi ayollarda metabolik bog'liq steatotik jigar kasalligi rivojlanishida metabolik, endokrin va molekulyar-genetik omillar o'zaro chambarchas bog'langan. Mazkur kasallikni erta aniqlash, xavf guruhlarini belgilash va shaxsga yo'naltirilgan profilaktika chora-tadbirlarini ishlab chiqishda gormonal-genetik markerlarni kompleks baholash muhim ilmiy va amaliy ahamiyatga ega.

Foydalanilgan adabiyotlar

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