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EKSPERIMENTAL MIOKARDIT SHAROITIDA NARSISSIN FLAVONOIDINING KALAMUSH YURAGI MITOXONDRIYALARI FUNKSIONAL HOLATIGA TA'SIRI

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Annotatsiya. *Tadqiqotda eksperimental miokardit sharoitida narsissin flavonoidining kalamush yuragi mitoxondriyalarida Fe^{2+}–sitrat ta'sirida yuzaga keladigan bo'kish jarayoniga ta'siri baholandi. Tajribalar uch guruh oq erkak kalamushlarda o'tkazildi. Miokardit modeli guruhida bo'kish nazoratga nisbatan 110,7 % ga ortdi, narsissin qo'llangan guruhda esa patologik guruhga nisbatan 57,1 % ga kamaydi. Natijalar birikmaning mitoxondriya membranalarini himoyalash imkoniyatini ko'rsatadi.*

Kalit so'zlar: *eksperimental miokardit, narsissin, flavonoid, mitoxondriya, lipidlarning peroksidlanishi, oksidlovchi stress, mitoxondriya bo'kishi, kardioproteksiya.*

Abstract. *This study assessed the effect of the flavonoid narcissin on Fe^{2+}–citrate-induced swelling of rat cardiac mitochondria under experimental myocarditis conditions. Three groups of male albino rats were examined. Mitochondrial swelling increased by 110.7% in the myocarditis group compared with controls and decreased by 57.1% in the narcissin-treated group compared with the pathological group. The findings suggest potential mitochondrial protective activity.*

Keywords: *experimental myocarditis, narcissin, flavonoid, mitochondria, lipid peroxidation, oxidative stress, mitochondrial swelling, cardioprotection.*

KIRISH

Yurak mushagi faoliyati mitoxondriyalarda hosil bo'ladigan energiyaga bevosita bog'liq. Oksidlovchi stress, lipidlarning peroksidlanishi va mitoxondriya membranasi o'tkazuvchanligining o'zgarishi yurak hujayralari faoliyatining buzilishida muhim o'rin tutadi [1, 2]. Tabiiy flavonoidlarning mitoxondriya funksiyasiga ta'sirini baholash kardioprotektiv birikmalarni izlashda istiqbolli yo'nalishlardan biridir [3].

Tadqiqotda Fabaceae oilasiga mansub Alhagi canescens o'simligidan olingani qayd etilgan narsissin flavonoidining eksperimental miokardit sharoitida kalamush yuragi mitoxondriyalarining Fe^{2+}–sitrat ta'siridagi bo'kishiga ta'siri o'rganilgan.

MATERIALLAR VA USULLAR.

Tajribalar in vivo sharoitida tana vazni 220–270 g bo'lgan oq, zotsiz erkak kalamushlarda o'tkazilgan. Dastlabki tezisda miokardit modeli adrenalinning 0,1 ml 0,1 % li eritmasi bilan chaqirilgani ko'rsatilgan. Hayvonlar uch guruhga ajratilgan: I - sog'lom nazorat, II - eksperimental

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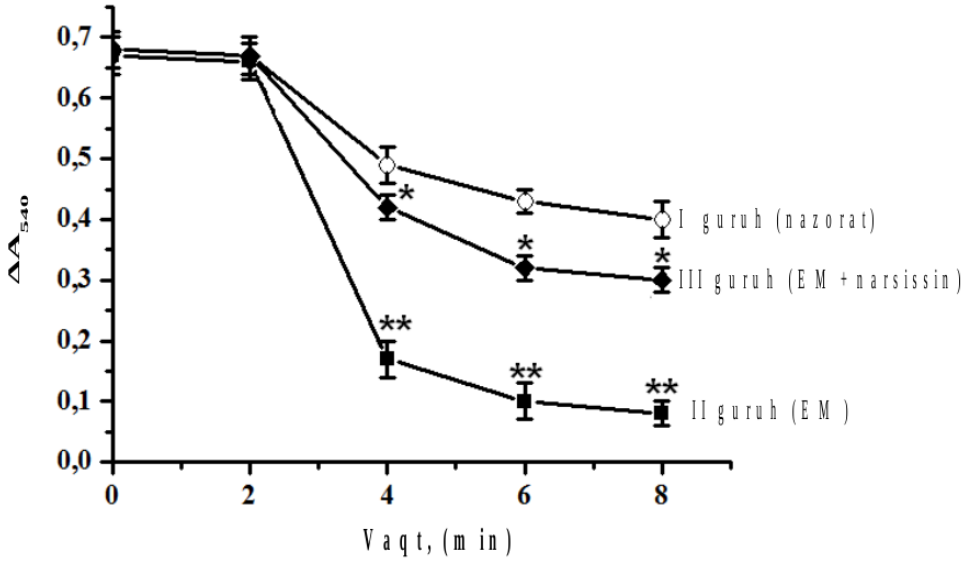
miokardit (EM), III - EM va narsissin bilan ishlov berilgan guruh. Mitoxondriyalar bo‘kishi Fe^{2+}–sitrat ishtirokida kuzatilgan. Dastlabki grafik izohida n=5 va statistik belgilashlar (*p<0,05; **p<0,01) berilgan.

NATIJALAR VA MUHOKAMA.

Eksperimental miokardit sharoitida Fe^{2+}–sitrat ta'sirida yurak mitoxondriyalarining bo‘kishi II guruhda nazoratga nisbatan 110,7 % ga ortgani qayd etilgan. Narsissin berilgan III guruhda mazkur ko‘rsatkich II guruhga nisbatan 57,1 % ga susaygan. Grafikda 2–8 daqiqalar davomida optik zichlik o‘zgarishi tasvirlangan. Ushbu natijalar mitoxondriya membranasi yaxlitligi va ionlar almashinuvi buzilishi bilan bog‘liq jarayonlar faollashishini ko‘rsatishi mumkin [1, 2].



1-rasm. *Eksperimental miokardit sharoitida Fe^{2+}–sitrat yordamida kalamush yuragi mitoxondriyalari bo‘kishiga narsissinning ta'siri (asl grafik; *p<0,05; **p<0,01; n=5).*

Mitoxondrial o‘tkazuvchanlikning tranzitor g‘ovagi (mPTP) oksidlovchi stress va Ca^{2+} muvozanati buzilishi sharoitida faolroq ochilishi mumkin [1, 2, 4]. Biroq taqdim etilgan natijalar bevosita mPTP ochilishini, malondialdegid (MDA) miqdorini yoki siklofilin D (CyP-D) bilan bog‘lanishni o‘lchash usullarini tavsiflamaydi. Shuning uchun ushbu mexanizmlar natijalar bilan mos keladigan ehtimoliy izoh sifatida baholanadi.

XULOSA

Dastlabki tajriba ma'lumotlariga ko‘ra, narsissin eksperimental miokardit sharoitida Fe^{2+}–sitrat bilan chaqirilgan mitoxondriya bo‘kishini patologik guruhga nisbatan kamaytirgan. Bu holat narsissinning mitoprotektiv imkoniyatlarini keyingi tadqiqotlarda chuqurroq baholash uchun asos yaratadi. Uning aniq molekulyar mexanizmi hamda klinik samaradorligini tasdiqlash uchun qo‘shimcha tajribalar talab etiladi.

Amaliy tavsiya. Keyingi tadqiqotlarda narsissin dozasi va davolash muddati, mitoxondriya ajratish protokoli, MDA miqdori va mPTP faolligi o‘lchovlari hamda statistik tahlil usulini alohida qayd etish maqsadga muvofiq.

Foydalanilgan adabiyotlar

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