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NEHOLESTEROLSKI STEROLI U TRUDNOĆI: POVEZANOST SA GOJAZNOŠĆU PRE TRUDNOĆE I NEONATALNIM ISHODIMA

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Gojaznost pre i tokom trudnoće je povezana sa dislipidemijom, što ukazuje na viši rizik od razvoja gestacionih komplikacija i nepovoljnih ishoda po majku kao i za bebu. Dok je uticaj dislipidemije majke na ishode trudnoće bio tipično ispitivan korišćenjem lipidnih parametara, varijacije sinteze holesterola i apsorpcije tokom trudnoće su značajno manje istraživane. Neholesterolni steroli (NHS) su surrogat markeri endogene sinteze i intestinalne apsorpcije holesterola; stoga, oni mogu biti korisni kao indikatori specifične dislipidemije majke tokom trudnoće. U ovoj studiji istraživali smo razlike u nivoima NHS između gojaznih i normalno uhranjenih trudnica, kao i njihovu povezanost sa neonatalnim karakteristikama na rođenju. Studija je uključivala 131 trudnicu. One su bile praćene tokom celog toka trudnoće do porođaja. Pregestaciona gojaznost je bila prisutna u 32 slučaja, dok je 99 žena imalo normalnu pregestacionu težinu. Koncentracije NHS u ukupnoj i HDL frakciji su određivane LC-MS/MS. Dobijeni rezultati su pokazali da je HDL holesterol bio viši kod trudnica sa normalnom telesnom težinom u trećem trimestru ($P < 0,05$), kao i ukupni serumski kampesterol, kampesterol u HDL frakciji i ukupni serumski nivoi dezmosterola ($P < 0,05$ redom). APGAR skor u 1. i 5. su bili niži kod novorođenčadi prekomerno uhranjenih i gojaznih majki ($P < 0,01$). Korelaciona analiza je pokazala različite obrasce korelacija između lipidnih markera i neonatalnih karakteristika u dve ispitivane grupe. Dobijeni rezultati ukazuju na to da poremećena homeostaza holesterola kod gojaznih trudnica može imati nepovoljne efekte na neonatalne ishode.

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NON-CHOLESTEROL STEROLS IN PREGNANCY: ASSOCIATION WITH PREGESTATIONAL OBESITY AND NEONATAL OUTCOMES

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Obesity before and during pregnancy is associated with dyslipidemia, which implies potentially higher risk for the development of gestational complications and unfavorable outcomes for both the mother and her offspring. While the impact of maternal dyslipidemia on pregnancy outcomes has been typically explored by using routine lipid profile parameters, variations of cholesterol synthesis and absorption during pregnancy are far less studied. Non-cholesterol sterols (NCS) are surrogate markers of endogenous cholesterol synthesis and intestinal cholesterol absorption; thus they could be useful as indicators of specific maternal dyslipidemia in pregnancy. In this study, we explored differences in NCS levels in obese and non-obese pregnant women, as well as their relationship with neonatal characteristics at delivery. The study enrolled 131 pregnant women. They were monitored during the entire course of pregnancy till delivery. Pregestational obesity was present in 32 cases, while 99 women had normal pregestational weight. The concentrations of NCS in total maternal plasma and HDL fraction were determined by LC-MS/MS. The obtained results revealed that HDL-cholesterol was higher in pregnant women with normal body weight in third trimester ($P < 0.05$), as well as total serum campesterol, HDL-campesterol and total serum desmosterol levels ($P < 0.05$ respectively). 1 minute and 5 minute APGAR scores were lower in neonates of overweight and obese mothers ($P < 0.01$). Correlation analysis revealed different patterns of correlation between lipid markers and neonatal characteristics in the two examined groups. The obtained results imply that impaired cholesterol homeostasis in obese pregnant women can have unfavorable effects on neonatal outcomes.