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Pregnancy prognosis relationship with maternal hyperlipidemia

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Objective

The purpose of our clinical investigation is to determine the correlation between prognosis of pregnancy and oxidative stress caused by lipid profile (total cholesterol, triglyceride, HDL, LDL), oxygenated LDL (oxLDL) and soluble lectin-like oxygenated LDL (LOX-1) measured at 12-18th gestational week, 20-24th GW and 28-32th GW (all trimesters).

Methods

In a randomized trial, 92 out of 212 pregnant women who applied to Istanbul University Cerrahpaşa Medical Faculty Obstetrics and Gynecology Department perinatology outpatient clinics between March 2015 and January 2017 were selected on the basis of having a BMI ≥ 30 kg/m2 and not having Diabetes Mellitus type 1 and 2, nephrotic syndrome, liver disease, chronic hypertension, thyroid disease, hyperlipidemia and not using any drugs affecting lipid profile. In all trimesters, 5 ml of serum was collected from these 92 women to measure total cholesterol, triglyceride, HDL, LDL, oxLDL and sLOX-1.

Results

In 34 women no complication was found, in 27 gestational diabetes, in 17 preeclampsia and in 14 other pathological cases (threat of premature labor, early membrane rupture, gestational cholestasis, fetal anomalies) were observed. In all trimesters, there was a non significant difference between women with complications and healthy ones in terms of total cholesterol, triglyceride, HDL, LDL levels, yet oxLDL and sLOX-1 levels were significant in women with gestational diabetes and preeclampsia.

Conclusion

Even though there is inadequate knowledge about the reasons of gestational complications (threat of premature labor, early membrane rupture, gestational cholestasis, fetal anomalies) increasing maternal-fetal mortality and morbidity, measuring oxLDL and sLOX-1 levels at early gestational weeks could serve as an useful marker to estimate the oxidative stress.