Objective: Placental factors and hypoxemia are the keys to intrauterine growth restriction (IUGR) and stillbirth. The aim of the study is to analyze histological changes in placentas of IUGR fetuses in pregnancies with no apparent etiologic factor and unexplained intrauterine fetal deaths.

Material and Methods: A total of 110 placentas were collected; 26 placentas of IUGR fetuses with no apparent cause, 58 placentas from unexplained intrauterine deaths over 20 weeks of gestation, and 26 placentas from uncomplicated pregnancies who delivered a healthy live baby. Microscopic examinations of placentas were performed for histopathological analyzes.

Results: Gestational age at delivery was 33.67±4.37 weeks, 29.15±8.36 weeks, and 39.0±1.52 weeks in women in group I, group II and group III, respectively (p<0.01). Infarction and intervillus thrombosis are significantly more frequent in placentas of Group I and group II. Chronic villitis occurred in 69%, 63% and 30% of group I, group II, and group III, respectively. Placental intravascular thrombi (Group I, 31% and group II, 26%), perivillous fibrin deposition and fibrinoid necrosis (65% in Group I and 53% in group II), infarction, intervillus thrombosis, chronic villitis, hemorrhagic endovasculitis, placental intravascular thrombi, perivillous fibrin deposition, fibrinoid necrosis, erythroblastosis and villous edema were found in the study group.

Conclusion: The results reported here indicate that a relationship exists between morphological changes in the placentas of IUGR and intrauterine fetal deaths (J Turkish-German Gynecol Assoc 2011; 12: 75-9)