

ABSTRACT: Fetal death: high maternal age at childbirth and the placenta.

The risk of fetal death increases with maternal age and varies considerably according to length of gestation. In this thesis from the Department of Obstetrics and Gynaecology at Akershus University Hospital, Camilla Haavaldsen and colleagues studied whether the risk of fetal death according to maternal age varies at different lengths of gestation. Using data from the Medical Birth Registry of Norway, they found that women aged 40 years or older had the highest risk of fetal death throughout pregnancy, but particularly in term and postterm pregnancies. The risk of fetal death among the oldest mothers was more pronounced in the period 1967-1986 as compared to the period 1987-2006. Improved obstetric care may explain the attenuated risk associated with maternal age in recent years.

The placenta is essential in providing the fetus with oxygen and nutrition, and placental insufficiency is assumed to be a major cause of fetal death. It is believed that older mothers have an increased risk of placental insufficiency. Placental weight has been suggested to be an indicator of placental function. Haavaldsen and colleagues studied the association of placental weight, birthweight and placental weight/birthweight ratio with gestational-age specific fetal death and also with maternal age. Both small and large placentas relative to birthweight were associated with fetal death in preterm births. At term, only small placentas were associated with fetal death. Placental weight increased by maternal age.

Small placentas probably have a reduced capacity to supply the fetus with oxygen and nutrition and may thus be dysfunctional. The function of large placentas is unknown. Placental enlargement may represent a compensatory mechanism for fetal hypoxia. Thus, the relative enlargement of the placenta, seen in pregnancies with older mothers, may be an adequate biological response to increase the chance of fetal survival.

Camilla Haavaldsen
Disserted 2014