

[Br J Obstet Gynaecol.](#) 1992 Aug;99(8):646-50.

Midpregnancy plasma zinc in normal and growth retarded fetuses--a preliminary study.

[Nasrat H](#), [Bloxam D](#), [Nicolini U](#), [Williams N](#), [Tannirandom Y](#), [Nicolaidis P](#), [Roedeck CH](#).

Royal Postgraduate Medical School, London, UK.

Abstract

OBJECTIVE: To determine plasma zinc concentrations in normally and abnormally growing fetuses.

DESIGN: Prospective observational study.

SETTING: Fetal Medicine Unit, Queen Charlotte's Maternity Hospital.

SUBJECTS: 53 pregnant women attending for fetal blood sampling at between 18 and 40 weeks gestation.

27 fetuses were normal (central group), 11 fetuses were growth retarded and 15 were malformed.

MAIN OUTCOME MEASURES: Plasma zinc concentrations in maternal and fetal blood at time of fetal blood sampling.

RESULTS: In normally growing fetuses, between 18 and 40 weeks gestation, there was no fall in maternal plasma zinc concentration; the fetal level fell by 36%. In 10 fetuses with symmetrical growth retardation, plasma zinc concentration tended to be low, but was not significantly different from that in the normal control fetuses.

CONCLUSION: The results suggest that (i) placental transfer of zinc is an uphill secretory process and that it is a rate-limiting step in the accumulation of zinc by the fetus and (ii) in fetuses with symmetrical intrauterine growth retardation, a low plasma zinc is probably a parallel phenomenon and not necessarily an aetiological factor