Dear Sir,

Kristiansson and Wang report an inverse relation between progesterone concentrations at 8–10 weeks of pregnancy in the 2nd and 3rd trimesters of pregnancy (Kristiansson and Wang, 2001). I have summarized data on the sexes of offspring of women with conditions variously described as ‘toxaemia’, ‘eclampsia’, ‘pre-eclampsia’ and ‘pregnancy-induced hypertension’ (James, 1995). It is clear that in one or more of these categories there is a statistically significant excess of males among the associated offspring. It has been suggested that this excess is restricted to hypertensive—as opposed to proteinuric—cases (Campbell et al., 1983).

I have adduced substantial quantities of evidence to support the hypothesis that the sexes of mammalian (including human) offspring are associated with the ratio R, where R is of the form (E/T)/(G/P), where E, T, G and P are respectively the parents’ sex-standardized concentrations of oestrogen, testosterone, gonadotrophins and progesterone (James, 1996).

In my 1995 paper, I offered grounds for supposing that pregnancy-induced hypertension is associated with high maternal oestrogen and/or testosterone concentrations. These suggestions are supplemented by Kristiansson and Wang’s finding of low progesterone at 8–10 weeks. This is so because if one may assume that a woman’s progesterone concentration early in pregnancy is an index of her progesterone concentration at conception, then these authors’ finding is also compatible with my hypothesis, as will be seen from the formula above. All these speculations could be tested by examining the extent to which infiltration by extravillous trophoblast into the placental bed is controlled by these hormones.

References

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Dear Sir,

There is increasing evidence on the importance of the fetal uterine environment regarding diseases in later life (Barker, 1998). In addition, a well-regulated blood glucose level is important among women with diabetes at time of conception to avoid fetal malformations (Greene, 1993). If the hypotheses by James are proved right the hormonal concentrations at the time of conception would also be important not only to the sex of the fetus but also to maternal disease during pregnancy such as hypertension.

James hypothesizes that a lower concentration of progesterone at the time of conception relates to higher blood pressure in late pregnancy. This is supported by the findings in our study (Kristiansson and Wang, 2001) provided there is a high correlation between progesterone values at conception and gestational weeks 8–10. Unfortunately, we have no data from the time of conception to resolve this issue.

References

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