

Periodontal disease and adverse pregnancy outcomes: a systematic review

Sir,

We were interested to read the systematic review, periodontal disease and adverse pregnancy outcomes by Xiong *et al.*¹ in *BJOG*. The suggestion that periodontal disease provides a source of subclinical and persistent infection which may induce a systemic inflammatory response that increases the risk of adverse pregnancy outcome is certainly enticing, particularly as the possible treatment intervention of improving dental hygiene is relatively 'simple'.

Xiong *et al.* concluded that periodontal disease may be associated with an increased risk of adverse pregnancy outcome, suggesting that more methodologically rigorous studies are needed for confirmation. We feel that their review is lacking in its assessment of obstetric outcome measures, particularly the use of low birthweight <2500 g as an indication of poor growth *in utero*.

Intrauterine growth restriction is responsible for considerable perinatal mortality and morbidity. If the association between periodontal disease and adverse pregnancy outcome is to be accurately assessed, the obstetric outcomes measured need to reliably identify these growth-restricted infants.

Low birthweight is a predictor of perinatal morbidity and mortality and is better than gestational age alone. However, for a given birthweight, a greater gestational age decreases the risk. Using a birthweight of less than 2500 g has been shown to be a poor predictor of perinatal outcome.² This creates the problem of identifying infants as growth restricted, who are normally grown and constitutionally small. It also excludes larger infants who are truly growth restricted.

For a given gestational age, an individual baby has an intrinsic birthweight potential which it either achieves, underachieves or overachieves. The individualised birthweight ratio (IBR) calculates a baby's predicted birthweight using birthweight at delivery, gestation at delivery, baby's sex and maternal height, weight, ethnicity and parity. The baby's actual birthweight is divided by the predicted weight and expressed as a percentage. A baby is growth restricted if its IBR is less than the 5th percentile. (With the increasing computerisation of

obstetric records, the information required is easily accessible and an IBR can easily be calculated at the time of delivery).³

Projects reviewed in the article that imply an association between periodontal disease and growth restriction are scientifically flawed; it is important that growth-restricted infants are accurately recognised, so that they can be comprehensively studied and interventions targeted where they would have most clinical impact. ■

References

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- 3 Sanderson DA, Wilcox MA, Johnson IR. The individualised birthweight ratio: a new method of identifying intrauterine growth retardation. *Br J Obstet Gynaecol* 1994;101:310–14.

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Accepted 6 April 2006.

DOI: 10.1111/j.1471-0528.2006.00969.x