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Comments

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The aim of the Controlled Antenatal Thyroid Screening (CATS) study in South Wales, UK is to evaluate the strategy of testing thyroid function during early gestation, from 11 to 15 weeks, and at 6 days after delivery. Serum samples obtained during this gestational interval are randomly allocated either to a 'screen group', in which thyroid function is assessed by measurements of free thyroxine (fT_4) and thyroid-stimulating hormone (TSH), or to a 'control group' in which thyroid testing is not performed until 6 days after delivery. Women in the screened group who are found to have a concentration of $fT_4 < 2.5$th centile or a TSH concentration >97.5th centile are treated with $0.15\,mg\,day^{-1}$ of levothyroxine. Ultimately, two groups of children, those from the screened mothers treated with levothyroxine and those from control mothers found to have low concentration of fT_4 or a high concentration of TSH after delivery, will be assessed psychologically at the age of 3 years.

A random urine sample has been obtained from all participants in the CATS study. The concentration of iodine (measured by Dr P Smyth, University College, Dublin) has been measured in 626 samples of which 374 (59.7%) had an iodine concentration of less than $150\,\mu g\,l^{-1}$, a value indicating a daily intake of less than $250\,\mu g\,day^{-1}$ of iodine. Serum thyroid hormone analysis in these women has shown no significant difference in the concentration of either fT_4 or TSH between subgroups of women classified into five groups according to their urinary iodine concentration: <50, 50–99, 100–149, 150–300 and $>300\,\mu g\,l^{-1}$.

It would appear from these data that the dietary iodine intake in pregnancy may be less than the optimal in more than half of all the pregnant women studied in South Wales, but the detrimental effect on thyroid function is not clear. The possibility exists that, because of physiological changes at this time of gestation, iodine nutrition might be more reliably evaluated in the second trimester of pregnancy.

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