Maternal calcium supplementation and bone accretion in infants

Dear Sir:

I read with interest the findings of Jarjou et al (1) on infants born to a subset of 8325 women randomly assigned during pregnancy to test the effect of calcium on the prevention of preeclampsia (2). Methodologic and clinical issues exist that may shed light on the appropriate interpretation of the data in this report.

It is well known in adults that the usefulness of single-photon absorptiometry measurement as an indicator of total-body bone accretion is limited. We showed in infants that regional bone mass measurements vary with gestational and postnatal age and are not comparable with changes in total-body bone mass accretion (3, 4); thus, the data on bone accretion are best determined by total-body bone mass by dual-energy X-ray absorptiometry (DXA). One major concern with this report (1) is that complete DXA measurements of bone mass by dual-energy X-ray absorptiometry (DXA). One major concern with this report (1) is that complete DXA measurements of bone mass by dual-energy X-ray absorptiometry measurement as an indicator of total-body bone accretion or its use over the same range of animal weights (9, 10). Almost 300 reports of DXA studies in infants and its use over the same range of animal weights (9, 10). Almost 300 reports of DXA studies in infants and >100 reports in neonates are now available; thus, Table 5 in the article by Jarjou et al (1) grossly underrepresents the data in the literature.

Bone mineralization does not depend on the availability of calcium alone. The availability of protein, energy, and many other nutrients also is important to bone formation and bone mineralization. Our report on the beneficial effect of bone mass accretion in the fetus after calcium supplementation during pregnancy was applicable to women who had low dietary calcium intakes (mean intake: 411 mg/d) but who were otherwise adequately nourished, specifically with protein and energy (11). Inadequate maternal intake of other nutrients, particularly protein and energy, during pregnancy presumably occurred in many of the mothers of the infants studied (1), which may have countered any beneficial effect of maternal calcium supplementation. Postnatal nutritional deficiency, including deficiencies in protein, energy, and of nutrients other than calcium, also can affect skeletal growth. Do the authors have information on the protein and energy intakes of the mothers during pregnancy and lactation and of the infants?

No conflicts of interest were reported.

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REFERENCES


