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Reviewer's comment on MS no. 02/156: "Colour Doppler ultrasonography for evaluation of anterior chest blood supply: the possible role of arterial blood supply to the costosternal junction in the aetiology of idiopathic scoliosis in female adolescents" (P. Korolessis et al.)

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This is an original piece of work exploring a possible link between asymmetries of blood supply and any effects on soft tissue and bone development of the chest wall, comparing scoliotics with non-scoliotics. A possible conclusion is that over-development or atrophy of the blood supply may be a primary factor governing the rib growth, but, on the other hand, it may be secondary, if, indeed, such asymmetries exist at all. The authors have discovered that Colour Doppler ultrasonography may be used reliably to measure anatomical and flow characteristics of the internal mammary artery on each side, close to its origin at the first three intercostal spaces.

In this closely argued and densely statistical paper the authors conclude that, in right-sided, adolescent, idiopathic scoliotics, blood flow increases in the right internal mammary artery, together with increases in the apical rib-vertebral angles on

the convex and concave sides. The cross-sectional area is not changed. On the other hand, the cross-sectional area of the left internal mammary artery is increased in proportion to an increase in convex and concave apical rib-vertebral angles.

These somewhat conflicting findings do not indicate a simple correlation between increased blood supply and rib overgrowth as a primary or secondary feature of right-sided, idiopathic scoliosis in adolescence. Indeed, an explanation for these apparently statistically valid differences cannot be derived from this study. We will have to wait with interest for further longitudinal studies to see if they offer any aetiological or prognostic indicators of the natural history of an individual, idiopathic curvature in adolescence. No doubt this is wishful thinking, but the authors should certainly be encouraged to continue their efforts in this potentially important area.

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