Maternal age and the risk of developing ankylosing spondylitis

We read with interest the article by Weinreich et al. (1) They showed that transgenic mice born to mothers aged 8 months or older had a significantly lower frequency of murine ankylosing enthesopathy than mice born to younger mothers. They speculated that an age related increase in maternal antibody levels resulted in increasing protection of offspring against a ubiquitous, potentially arthritogenic, micro-organism. In humans, as in the mouse model, environmental factors must influence the development of ankylosing spondylitis (AS). We sought evidence that the age of conception in women with AS influenced the risk of their offspring developing disease.

We collected data from 3473 patients with AS, regarding the age, and AS status, of relatives. Nineteen hundred and sixty five were recruited from the Royal National Hospital for Rheumatic Diseases (RNHRD), 2779 from the National Ankylosing Spondylitis Society (NASS), and 267 were relatives of RNHRD patients or NASS members, but were not RNHRD patients or NASS members themselves. Those from the RNHRD have been confirmed, by a rheumatologist, as having AS according to the New York criteria. (2) The diagnosis of AS in the overall patient population has been validated in three separate cohorts in which 100% of 146 patients had AS (personal communication, M. Edmunds, Oxford), 92.7% of 330 patients had AS (personal communication, M. Brown, Oxford), and 76.8% of 200 patients had AS (personal communication, K. Beattie, Edinburgh). We compared maternal age at child birth in 37 cases (20 mother:daughter pairs, 18 mother:son pairs). There were no families with data available for more than one mother:child pair. The higher than expected ratio of mother:daughter to mother:son pairs is the subject of an ongoing investigation. From our data base we chose mother:son pairs for analysis because the family data on the mother is more certain. The maternal age at conception, on the development of AS in the offspring, remains an interesting area that deserves further attention.