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Heavy birthweight babies twice as likely to develop rheumatoid arthritis

Is birthweight associated with risk of rheumatoid arthritis? Data from a large cohort study

Heavy birthweight female babies are twice as likely to develop rheumatoid arthritis in adulthood as their average birthweight peers, suggests research published ahead of print in the *Annals of the Rheumatic Diseases*.

The results support the fetal origin of disease theory, which argues that certain conditions and diseases in adult life are programmed by factors during the pregnancy.

Diabetes, coronary heart disease, and high blood pressure, for example, have been linked to low birthweight, while an increased risk of breast cancer and leukaemia have been linked to high birthweight.

The findings are based on over 87,000 women taking part in the US Nurses' Health Study between 1976 and 2002. All the participants were aged between 30 and 55 at the start of the study in 1976.

Every two years, the women were quizzed about their health, lifestyle, and family illness. And in 1992 they were asked to provide information on their birthweight.

During the study period, 619 women were diagnosed with rheumatoid arthritis for the first time.

Women who weighed more than 4.54 kg at birth were twice as likely to develop the autoimmune disease as those who weighed between the average of 3.2 to 3.85 kg at birth.

The results held true even after taking account of factors likely to influence the baby's birthweight.

These included socioeconomic status, parental smoking, maternal diabetes, age at first period, use of oral contraceptives or HRT, breastfeeding and weight.

There is no obvious biological explanation for the findings, say the authors. But adults with rheumatoid arthritis have abnormal hormone regulation, and it is thought that this process may be triggered while in the womb.

Although completely speculative, they go on to suggest that if the risk of rheumatoid arthritis could be lessened during pregnancy, altering the mother's diet could open up an exciting avenue for prevention.

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