

Early menopause predicts milder rheumatoid arthritis

Women with an early menopause are less likely than other women to develop severe rheumatoid arthritis, according to the results of a community-

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based Swedish study presented at the European Congress of Rheumatology in Berlin.

Researchers identified 134 women who answered a questionnaire in a community-based health survey – the Malmö Diet and Cancer Study – carried out between 1991 and 1996 and who later developed rheumatoid arthritis.

The researchers analysed hormonal predictors suggested to influence rheumatoid arthritis risk, including breastfeeding history, use of oral contraceptives and age at menopause.

In addition, they reviewed the patients' medical records to assess severity of rheumatoid

arthritis which they classified into three groups based on erosions, seropositivity and need for biologic treatment.

Results showed that women with a history of early menopause, occurring before the age of 45 years, were 50% less likely to develop severe rheumatoid arthritis than those with a later menopause (16% *vs* 35%). They were more likely to develop a mild or moderate rheumatoid factor negative phenotype (58% *vs* 20%). Use of oral contraceptives and history of breastfeeding were not associated with major differences in rheumatoid arthritis severity.

'We already know that hormonal factors may influence the risk of rheumatoid arthritis, but this is the first study we know of that investigates the impact of menopausal age on the severity of rheumatoid arthritis,' said lead author Dr Mitra Pikwer from Skåne University Hospital, Sweden.

She continued: 'This is an important breakthrough, both in helping us understand the impact that hormones may have on the development of this disease and potentially also in helping us predict the long-term prognosis for our patients.'

Susan Mayor

Fetal growth restriction affected by maternal gene

A Japanese study (Nakamura et al, 2012) has found that maternal rather than fetal factors are associated with fetal growth restriction. A comparison of maternal and fetal angiotensin-converting enzyme genotypes with the size of babies at birth found evidence of this connection. This finding lends support to the hypothesis that reduced placental blood flow leads to fetal growth restriction.

In a study of 470 pairs of mothers and babies in Japan, both mothers and babies were genotyped using maternal and cord blood, and the weight, length, head circumference, and incidence of small-for-gestational age status were recorded for full-term newborn infants.

This study focused on both maternal and fetal insertion or deletion polymorphism of the angiotensin-converting

enzyme gene. Pairing of either insertion/insertion, insertion/deletion, or deletion/deletion gene alleles was identified. In adults, this insertion or deletion polymorphism is considered a marker of renin-angiotensin system functions. Its role in incidents related to pregnancy has not been as clearly defined.

In this study, researchers found that the incidence of small-for-gestational age in babies whose mothers had one or two deletion alleles was greater than that in babies whose mothers had two insertion alleles. No significant differences between these groups were found when analysing the infants' alleles.

Nakamura E, Okamoto T, Nagaya K, Hayashi T (2012) Maternal deletion allele of angiotensin-converting enzyme gene is associated with fetal growth restriction. *Pediatr Dev Pathol* 15(2): 114–17

Fatigue could predict risk of hospitalization for COPD

Reports of low energy levels or feelings of fatigue could be used to predict risk of hospitalization for people with chronic obstructive pulmonary disease (COPD) (Paddison et al, 2012).

Fatigue has been reported as the second most prevalent symptom of COPD, after breathlessness. Symptoms of fatigue can be both physical and mental and include a lack of energy or a loss of concentration.

To investigate the link between fatigue and COPD, the researchers assessed 83 people attending a pulmonary rehabilitation clinic to manage their condition. Participants completed a questionnaire about their feelings of fatigue. Using the results from the questionnaire, unit scores from 0–10 were generated showing participants' experience of

fatigue, with a higher score equating to greater fatigue.

The researchers also measured breathlessness and levels of airway obstruction, along with hospital records for a period of 20 months.

The results showed people reporting the most severe levels of fatigue were the most likely to be hospitalized. Compared to the lowest third of patients, the third of patients reporting the most intense scores on fatigue impacts showed a 13.6-fold increase in risk of hospitalization within 20 months.

The length of hospital stays also increased by a factor of almost 4 for each unit increase in patients' reports of fatigue experiences.

Paddison JS, Effing TW, Quinn S, Frith PA (2012) Fatigue in COPD: association with Functional Status and Hospitalisations. *Eur Respir J* 14 June (Epub ahead of print)