

Major rise in Caesarean sections linked to impaired womb function with age

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Delaying childbirth has substantially contributed to recent rises in caesarean section rates, according to a paper published this week by scientists at Cambridge University.

The findings come from an analysis of a large body of Scottish data performed by a team under Professor Gordon Smith, at the University's Department of Obstetrics and Gynaecology.

The team examined more than 500,000 entries collected by the Scottish Morbidity Record between 1980 and 2005 to determine the association between maternal age and the outcome of labour. Alongside a major increase in the number of caesareans, they found striking changes in the age of mothers over the study period.

The proportion of women aged 35-39 entering their first pregnancy increased seven-fold, whilst there was a ten-fold increase for women aged 40 or older. At the same time, the caesarean rate more than doubled. The team estimate that 38% of these additional procedures would have been avoided if the maternal age distribution had remained static.

This picture is mirrored elsewhere in the developed world, which has seen a dramatic increase in caesarean sections over the past thirty years. Previous epidemiological studies had also reported a correlation with maternal age, but the reason for the increased rate remained unclear.

Hypothesising that there was a biological cause, the team went on to study samples of the myometrium, muscle from the middle of the uterine wall, taken from 62 women undergoing elective caesarean procedures in Cambridge.

They found that advancing age was associated with impaired uterine function, in particular a reduced degree of spontaneous contraction and change in the type of contraction. The reduction is thought to result in poor progression of labour and thus the increased rate of caesarean section.

The findings, which are published this week in *Public Library of Science Medicine*, will have implications for policy makers and healthcare providers, as well as parents. The procedure is associated with higher mortality and morbidity rates for mother and child, including difficulties in later pregnancies.

Professor Smith said: "These findings clearly indicate that the association between advanced age and poor outcome in labour is likely to reflect a biological effect of aging on the uterus.

As more women delay childbirth, it is essential that we fully understand the effects of age on childbirth if we are to impact on rising rates of intervention in pregnancy."

Source: University of Cambridge

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