

Mongolism and Maternal Menarche

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Though the basic cause or causes responsible for the chromosomal aberration in mongolism are still obscure, it is generally agreed that the standard trisomic karyotype in this condition originates in the ovary. Measures of ovarian function could therefore be helpful in elucidating some of the factors involved. In this connexion, an opportunity arose to compare the stated age of onset of menstruation in mothers of mongols with that in an appropriate control group. The findings are reported, and briefly discussed, below.

Materials and Methods

The mothers of 792 mongols and of 636 severely retarded non-mongol subjects provided, on request, their ages at the onset of menstruation. The information was obtained by personal interview in about one-third of each group of mothers, and by questionnaire in the remaining two-thirds. Both groups lived in London or neighbour-

ing counties and had similar socio-economic backgrounds. Mothers who expressed uncertainty about remembering their ages at menarche were excluded. When an age at menarche was given (e.g. 13 years), it was scored as the midpoint of the year (i.e. 13.5 years).

It seems likely that any errors in recalling age at menarche would be similar in both groups of mothers. Thus, though actual means of ages elicited may not be precisely accurate, comparisons between the two groups would, nevertheless, be valid.

Findings and Discussion

A feature of our data, both for mothers of mongols and for mothers of other retarded children, is a tendency for the age at menarche to get earlier over the years, as indicated in Table I. A secular trend towards a fall in the age at menarche, more marked than in the present data, has been apparent in a number of countries, including Great Britain, for over a century (Tanner, 1962).

An analysis of the mean ages at menarche in the mothers of mongols and of controls, in terms of

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TABLE I
AGE OF MOTHER AT MENARCHE BY DATE OF OCCURRENCE OF MENARCHE

Date Menarche Occurred	Mothers of Mongols			Mothers of Controls			Difference of Means	Standard Error of Difference
	No. of Cases	Mean Age at Menarche (yr.)	σ	No. of Cases	Mean Age at Menarche (yr.)	σ		
1900-19	128	14.22	1.56	77	14.19	1.49	+0.03	± 0.22
1920-39	519	14.01	1.47	447	13.85	1.62	+0.16	± 0.10
1940-59	145	13.71	1.56	112	13.81	1.54	-0.10	± 0.19
Totals	792	13.99	1.58	636	13.88	1.60	+0.11	± 0.08

TABLE II
AGE OF MOTHER AT MENARCHE BY AGE OF MOTHER AT BIRTH OF CHILD

Maternal Age at Birth of Child	Mothers of Mongols			Mothers of Controls			Difference of Means	Standard Error of Difference
	No. of Cases	Mean Age at Menarche	σ	No. of Cases	Mean Age at Menarche	σ		
15-34	325	13.63	1.56	506	13.80	1.57	-0.17	± 0.11
35-49	467	14.24	1.55	130	14.20	1.64	+0.04	± 0.16
Totals	792	13.99	1.58	636	13.88	1.60	+0.11	± 0.08

maternal age at the birth of the affected child, is presented in Table II. The later menarche ages in the older mothers, in both samples, is a reflection of the secular trend shown in Table I. There is no statistically significant difference in the mean menarche ages between the mothers of mongols and of controls. However, there is a tendency, among the younger mothers, for those who have mongols to begin menstruating a little earlier than those who have non-mongols. This tendency is still apparent when account is taken of the secular trend.

Øster (1953) noted, in his Danish series, that mothers of mongols had an earlier average age at menarche than women in the general population, though he did not analyse these data in relation to maternal age at the birth of the children. Øster also found, in a sample of 65 mongols, that the average menarche age was below that in the general population. Penrose (1967) has estimated, using quantitative dermatoglyphic criteria, that 10% of mothers of mongols are likely to be cytological mosaics. He also pointed out that mosaic mothers, like fully affected mongol mothers, tended to have their mongol children at a relatively early age. It could therefore be argued that, if mongols tend to begin menstruating early, mosaics are not unlikely to do so as well, and that this would tend to reduce the average age at menarche in younger mothers of mongols, as shown in Table II. The subject seems to merit further investigation as it could have a bearing on fertility and problems of non-disjunction in connexion with mongolism.

Summary

The stated ages at menarche, in mothers of 792 mongols and of 636 severely retarded non-mongols, were compared. In both groups, there was a secular tendency for reduction of age at menarche. There was no statistically significant difference in mean menarche ages between the mothers of mongols and of controls. However, among the younger mothers, those who had given birth to mongols began menstruating a little earlier than those who had non-mongols. It is suggested that the subject should be investigated further in connexion with problems of mosaicism and of fertility in mongolism.

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