

Diaphragmatic hernia in Avon

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SUMMARY A study of diaphragmatic hernia in Avon suggests that the incidence of this malformation is increasing. The incidence in Avon from 1974 to 1977 was 0.54 per 1000 births, higher than any previously published figure for the incidence of diaphragmatic hernia.

Diaphragmatic hernia is thought to result from an error in development of the diaphragm at about 7 to 10 weeks after conception,¹ but the cause is unknown. In about 75% the defect is on the left, most of the other cases being right sided, with only a few bilateral cases. About 25% of cases have a major abnormality of the central nervous system, and most of these are stillborn.² Previous studies have failed to show genetic factors in most cases.² The present report suggests that the incidence of diaphragmatic hernia may be increasing.

Subjects, methods, and results

The subjects consisted of patients previously collected for a genetic study² in the south-west of England, and a further 26 cases born subsequently in the south-west and collected in the same way. The total of 169 cases included 79 males and 90 females, a sex ratio of 0.88. In 129 patients (76%) the defect was on the left, in 33 (20%) it was on the right, and in seven (4%) it was bilateral. All cases were either stillborn or very young infants, except for one child whose defect was discovered at the age of 8 years.

Ascertainment was incomplete for areas other than what is now the county of Avon, and only the results for incidence in Avon are given here. The date of conception was calculated in each case, and the results are shown in the table.

In the period 1974 to 1977, in a total of 42 977 births in Avon, there were 23 cases, giving an incidence of 0.54 per 1000 births. There are no published figures for births in Avon before 1974.

Neither a monthly trend nor clustering in time was detected.

Discussion

The data collected for Avon suggest an increasing incidence of diaphragmatic hernia. The figure of 0.54

TABLE No of cases of diaphragmatic hernia conceived each year in Avon

1960	4	}	12
1961	3		
1962	5		
1963	4		
1964	0	}	18
1965	4		
1966	5		
1967	2		
1968	7	}	20
1969	6		
1970	5		
1971	5		
1972	4	}	25
1973	6		
1974	4		
1975	6		
1976	9		

cases per 1000 births is higher than any previously published.³

It is hoped that further studies will be made to see if similar trends in incidence exist in other areas, for an environmental cause of diaphragmatic hernia seems likely. The rarity of familial recurrence would seem to point either to non-recurrent or to immunising teratogens, and the absence of a seasonal effect or clustering is not in favour of an epidemic infection. This leaves endemic infections and all sorts of possible environmental agents.

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