

SPIDER NAEVI— THEIR INCIDENCE IN HEALTHY SCHOOLCHILDREN

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When I began routine examinations of healthy schoolchildren after nine months' absence from clinical work, I was struck by what appeared to me to be a high incidence of spider naevi found on normal children. There was, at that time, a protracted outbreak of infective hepatitis in the city, and wondering if this might be related, I commenced to record the number of spider naevi found in each child. No record appears to have been published on the incidence of these spots in normal children in this country, though several general textbooks on medicine mention their occurrence in otherwise normal adults. Sherlock (1958) states that they are found occasionally in children. Bean, Cogswell, Dexter and Embick (1949) quote figures from two small surveys in America giving the incidence as 12% in 58 normal non-pregnant white women, and 14.9% in 295 normal white soldiers; Bean (1945) gives the largest number in any one normal person as nine.

Method

The children in this survey were all attending local authority schools in Bristol and they were examined in their respective schools; the amount of time spent on a school medical examination varies, depending on the number of absentees and the age of the children, but about 15 children are seen in two and a half hours. Allowing for brief history-taking, general examination and discussion with the parent, this allowed little time for a lengthy examination of the skin, but the children were all stripped to the waist and examined in a light that was usually adequate. It was the exception to have a couch available for abdominal palpation. For the purpose of this survey a spider naevus was defined as a vascular mark, with a central arteriole and radiating branches, which completely blanched on pressing on the central vessel with the point of a pin.

Incidence

In just over a year 1,138 children were examined at routine school medical inspections, and spider

naevi were present in 540 (47.5%). These children's ages ranged from 3 to 17 years, though due to the administrative timing of routine medicals, the majority fell into groups aged 3, 6, 9, 14 and 16 years; the sex and age of the children were recorded, with details of the number and site of the spider naevi. Where naevi occurred in children, the mean number present was 2.1, the maximum number of naevi in any one child being 12 in a 14-year-old boy. Detailed figures of incidence by age and sex are given in Table 1.

Analysis of these figures shows that there was no significant difference in the incidence of spider naevi in boys and girls in each of the age-groups ($p > 0.1$ in all cases). When comparing the incidence in the different age-groups, there is no difference between nursery and infant schoolchildren ($p > 0.3$), but a significant difference between the high incidence in junior children and the lower incidence in infant and senior children ($p < 0.01$). The percentages of children with and without spider naevi in the four age-groups are shown in Table 2.

Distribution

Due to the time available at the examinations an accurate record of the site was not kept, but a note was made of the number of naevi on the face, neck, trunk, arms and hands. Published figures refer to the distribution of spider naevi in cirrhosis, and the figures obtained in this survey are compared with those of Bean (1945) in Table 3; the incidence appears to be very much lower on the trunk, and higher on arms, hands and particularly higher on the face in the normal child of school age.

Pathological Causes of Spider Naevi

Cirrhosis of the liver is a known cause of spider naevi (Bean, 1953), and this has been excluded on clinical grounds in all the children examined. Pregnancy is also associated with the appearance of

TABLE 1
NUMBER OF NAEVI PRESENT IN CHILDREN OF DIFFERENT AGES AND SEXES

		Number of Naevi												
		0	1	2	3	4	5	6	7	8	9	10	11	12
Nursery	{Boys	30	12	2	1			1						
	{Girls	61	13	3	5	1								
Infant	{Boys	49	16	8	5	1					1			
	{Girls	26	15	11	4	3								
Junior	{Boys	43	41	18	8	9	5	4	2					
	{Girls	30	14	13	9	10	0	4	1	2	2			
Senior boys		359	154	84	27	19	3	2	3	2		1		1
Total		598	265	139	59	43	8	11	6	4	3	1		1
% of children seen		52.5	23.3	12.3	5.2	3.8					3.0			

TABLE 2
PERCENTAGES OF CHILDREN WITH AND WITHOUT SPIDER NAEVI IN DIFFERENT AGE-GROUPS

Age (yrs)	No Naevi (%)	Naevi Present (%)
3-4	70.5	29.5
5-6	54.0	46.0
7-10	34.0	66.0
11-16	54.8	45.2
3-16	52.5	47.5

spider naevi (Bean *et al.*, 1949), but this is not relevant to the survey as no girl over the age of 11 years was seen by me (all the secondary pupils seen were boys).

Kunkel and Hoagland (1947), in an investigation of cases of infective hepatitis, state that the presence of spider naevi aids in confirming the diagnosis of the disease; they report that in a study of Navy patients approximately 30% developed spider angioma in the acute stage of the disease. In the follow up of five children, the spider angioma faded slowly and two could still be identified at the end of eight months, although the patient had no persistence of signs or symptoms of disease.

There has been a widespread outbreak of infective hepatitis in Bristol, starting in the latter half of 1959 and reaching a peak in October 1960, with a gradual decline in 1961 (Bothwell, 1961). The infection has been voluntarily notified by general prac-

tioners since January 1, 1960, and statutorily notifiable since December 1, 1960, in Bristol. Just over half the cases in 1960 and 1961 occurred in children aged 5 to 10 years, and during this period 1,071 children in this age-group were notified as having infective hepatitis (approximately 2.9% of all primary schoolchildren). This investigation took place from September 1961 to July 1962, and in order to check whether the presence of spider naevi was related to previous infective hepatitis each parent was asked if the child, or any member of the family household, had had infective hepatitis in the previous two years. Each child attends the school medical examination with a questionnaire completed by the parent, one of the questions asking if the child has had jaundice and if so when; in the absence of a parent, reliance was placed on this form in conjunction with the recollection of the child.

Analysis of the data obtained (Tables 4 and 5) showed that there was no correlation between the presence of spider naevi and the child or a member of the family household having had infective hepatitis.

Discussion

The incidence of spider naevi, as shown by this survey, is in all probability an underestimate, as in the time available a meticulous search of the skin and mucous membranes could not be carried out. The children were by no means a random sample of Bristol schoolchildren, as one school medical

TABLE 3
DISTRIBUTION OF NAEVI ON THE BODY AS PERCENTAGE OF TOTAL OBSERVED

	Face	Neck	Trunk	Arms	Hands	Other	Total Cases
Bean (1945)	10.3	12.5	53.1	21.3	2.3	0.5	91
Bristol Survey	31.9	4.9	1.0	29.1	33.0	0.0	540

TABLE 4

ASSOCIATION BETWEEN PRESENCE OF SPIDER NAEVI AND PREVIOUS INFECTIVE HEPATITIS OF THE CHILD

	No Naevi	Naevi Present
Previous infection	18	10
No infection	580	530

officer tends to visit schools in a defined area of the city, but apart from infective hepatitis there are no known factors which should influence the incidence of spider naevi from one district to another in the same city. The outbreak of infective hepatitis has spread unevenly through the city, and the history of infection that was obtained was probably an underestimate, but there should not be any bias in relation to the presence or absence of spider naevi, and none of these factors should affect the statistically significant lack of association between personal or family infection and the presence of spider naevi.

Summary

Examinations were carried out on 1,138 healthy schoolchildren for the presence of spider naevi; these were found in 540 (47.5%) of the children, the mean number present in affected children being 2.1 and the maximum 12. There was no significant difference between the incidence in boys and girls in each of the age-groups, but there was a significant variation from one age-group

TABLE 5

ASSOCIATION BETWEEN PRESENCE OF SPIDER NAEVI AND PREVIOUS INFECTIVE HEPATITIS IN OTHER MEMBERS OF THE FAMILY HOUSEHOLD

	No Naevi	Naevi Present
Previous infection	13	10
No infection	585	530

to another, with the lowest incidence in children under 5 years of age and the highest incidence from 7 to 10 years. There was no association between the presence of spider naevi and infection of a child or a member of the family household with infective hepatitis.

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