DERMATOGLYPHICS IN VITILIGO

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Summary

A total of 80 cases, comprising of 40 controls and 40 vitiligo cases, were studied for dermatoglyphic pattern and ridge count. In males with vitiligo increased incidence of radial loops on 2nd fingers and increased incidence of arches were observed while in females, increased incidence of ulnar loops on 3rd digit was observed in the present study.

Difference in patterns in cases of vitiligo as compared to normal, was statistically insignificant. No significant change was observed in total ridge count in vitiligo cases.

In skin disorders such as ichthyosis, alopecia areata, psoriasis, and vitiligo where inheritance is thought to be a major factor in causation dermatoglyphic patterns, have been studied by various workers[1,2,3]. In this paper, observations of dermatoglyphic patterns in vitiligo, which is said to be a hereditary disease[4], are presented.

Material and Methods

40 patients with vitiligo; 20 males and 20 females from Skin and V.D. Department of Medical College, Rohtak, seen during the year 1978-79 were taken up for this study. Diagnosis was based on clinical examination only. Same number of controls; twenty males and twenty females, were also studied. Only those with no evidence of genetic disorder were included in this control group. Finger prints of all the ten fingers were taken one by one with the help of printer's ink. Patterns and ridge counting were recorded in each case.

Observations

Patterns : Control subjects :

Male controls had loops in 54.5 per cent, of fingers, whorls in 40.5 per cent and arches in 5 per cent while female controls had loops 62 per cent, whorls 34 per cent and arches 4 per cent (Table 1). 4th and 5th fingers did not show any arch pattern in either sex. In males, loop pattern was more commonly seen on 3rd and 5th digits (25.1 per cent and 24.7 per cent), whorls on 1st (23.5 per cent), 2nd (23.5 per cent), 4th (24.6 percent) followed by 5th digit (16.8 per cent) and arches on 2nd and 3rd digit (60 per cent and 20 per cent respectively). Radial loops were observed on 2nd finger (4 per cent).

In females loop pattern was more seen on 1st (22.5 per cent), 5th (20.9 per cent) and 3rd fingers (19.3 per cent) and whorls on 2nd and 4th fingers (23.5 per cent each).

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Received for publication on 12—5—1980.

TABLE 1
Showing distribution of pattern

	Loops			Whorl			Arch			Statistical value
	M %	F %	Total %	M %	F %	Total %	M %	F %	Total %	
Normal	54.5	62	58.25	405	34	37.25	4	5	4.5	
Vitiligo	53	57.5	53.25	38	39.5	38.7	9	3	6	7.05 not significant

TABLE 2
Average ridge count

	Male			Female			
	Right	Left	Total	Right	Left	Total	
Normal	63	60	123	70	72.25	142.25	P >05 – not
Vitiligo	66.2	62.8	129	60.7	62	122.7	significant

Vitiligo :

In 20 female cases, loops were present in 57.5 per cent of fingers, whorls in 39.5 per cent, and arches in 3 per cent. Loops were seen on 3rd (28 per cent) and 5th digits (24.5 per cent). Whorls were mostly observed on 4th (35.9 per cent) and 1st fingers (28.8 per cent).

20 male cases presented loops in 53 per cent, whorls in 38 per cent and arches in 9 per cent of fingers. Loops were commonly observed on 3rd and 5th digits (21.5 per cent) each. Radial loops were observed on 2nd finger (8 per cent). Whorls were commonly seen on 1st (21.2 per cent), 4th (26.8 per cent), and 5th digits (21.3 per cent). Arch pattern was observed on 2nd (40 per cent) and 3rd fingers (30 per cent). Difference in patterns in cases of vitiligo as compared to normal, was statistically insignificant.

Total ridge count :

Total ridge count was high in females (129) compared to that of males (122.7) in vitiligo cases (Table 2).

Discussion

Dermatoglyphic studies in vitiligo are lacking in world literature. Sahasrabuddhe et al[3] reported that in males there is decreased incidence of whorls, more so on fifth digit, increased frequency of radial loops more so on 2nd digit, and increased arches on 3rd digit. In female cases, they reported significant increase of arches; 8.8 per cent as compared to their normal of 1 per cent and significant decrease of ulnar loops on 3rd digit.

In this study of 20 males, there was decreased frequency of loop and whorl pattern (loops 53 per cent and whorls 38 per cent), and increased frequency of arch pattern (9 per cent) as compared to normal males (loops 54.5 per cent, whorls 40.5 per cent and arches 5 per cent). Increased incidence of radial loops was observed on 2nd finger (8 per cent) as compared to that of normal (4 per cent). Similar preponderance of radial loops on 2nd finger was reported by Sahasrabuddhe et al[3]. Arch pattern was more commonly seen on 2nd and 3rd digit in this study.

In 20 females, there was increased frequency of whorl pattern (39.5 per cent) and decreased frequency of loop pattern (57.5 per cent) as compared to normal (whorl 34 per cent and loop 62 per cent). There was no increase

in frequency of arches in our female patients contrary to observation by Sahasrabuddhe et al[3]. Ulnar loops on 3rd digit were reported to be decreased by same workers whereas in our study these weve found to be increased. 4th finger did not show any arch pattern in both the sexes in the present study.

Only agreement in findings in vitiligo, with the study by Sahasrabuddhe et al[3] is the increased incidence of radial loops on the 2nd finger and also increased incidence of arches, though we have found more on 2nd and 3rd digits while above workers reported increased incidence of arches on 3rd digit in males. However they reported no increase in frequency of arches in female cases and increased incidence of ulnar loops on 3rd digit in female cases. As already mentioned study on larger number of cases is required to establish whether any significant change occurs in vitiligo which is considered to be a genetically determined disease[4].

Total ridge count :

No significant change in total ridge count was observed in vitiligo cases. Similar observation has been reported by Sahasrabuddhe et al[3].

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