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Short report

Dermatoglyphic patterns in patients of bronchial asthma – a qualitative study

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ABSTRACT

The present study was carried out to correlate the dermatoglyphic patterns in patients of bronchial asthma. Dermatoglyphic prints were obtained from both hands of 57 patients of bronchial asthma and 57 first degree relatives of these patients were selected to establish familiar tendency of occurrence of the disease. 57 normal healthy individuals, without family history of bronchial asthma, were selected as control group. The groups were labelled as Group A, B and C. The qualitative parameters like whorls, loops and arches were studied in the above mentioned three study groups. Presence of whorls on both the thumbs was a constant feature in all patients of bronchial asthma (group A) as compared with group B and C. Presence of whorls on both the thumbs can be used as one of the diagnostic criterion for patients with bronchial asthma.

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1. Introduction

In early foetal life dermal ridge differentiation occurs. It is genetically determined, and is influenced by physical, topographical and environmental forces. Probably, the blood supply and nerve supply also modulate the dermatoglyphic patterns. Recently the dermatoglyphic patterns have proved to be of diagnostic value in certain clinical disorders associated with chromosomal and developmental defects like mongolism, Turner's syndrome, cardiovascular disease, diabetes and schizophrenia [1-3].

Bronchial asthma is also influenced by genetic factors. Many members of the family can be affected by the disease. As the dermatoglyphic patterns are also genetically determined, these two may have a correlation which could be of help in predicting the occurrence of bronchial asthma among relatives of patients suffering from the disease [4-8]. However the studies on correlation between dermatoglyphics patterns in bronchial asthma patients are but a few. So the present work was undertaken to study

1. To find out a specific dermatoglyphic pattern in the patients with bronchial asthma which may have diagnostic value.
2. To find out the dermatoglyphic patterns in the first degree relatives to prove the familiar tendency of the disease.

2. Materials and Method

The dermatoglyphic prints from both hands of group A, group B and group C (57 no. each) were obtained for present study. The prints were taken using kores duplicating ink on plain white glossy drawing paper. The prints were studied with the help of the hand lens.

The following parameters were studied, tabulated and analysed by statistical methods

1. Whorls.
 2. Loops - Ulnar and radial.
- Arches.

3. Results

1. Preponderance of Whorls pattern in most digits in group – A and group – B as compared with group C.
2. The presence of whorls on both the thumbs was a constant feature in all patients of group – A which is statistically significant.
3. No significant difference of the preponderance of the whorls is found in group B (relatives) as compared to group C (controls).

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Table. Percentage frequency of different patterns in the three study groups

Patterns	Study Groups					
	Group - A		Group - B		Group - C	
	No.	%	No.	%	No.	%
WHORL	296	51.92	283	49.60	270	47.36
SULNAR	232	40.70	230	40.35	259	45.46
LOOPS						
RADIAL	06	01.05	11	01.92	10	01.75
LOOPS						
ARCHES	36	06.31	46	08.07	31	05.43

4. Discussion

Various diagnostic criteria are available for diagnosis of bronchial asthma. Apart from advances in medical diagnostic procedures, the diagnosis of bronchial asthma is difficult, as patients with asthma are heterogenous and they present a wide spectrum of signs and symptoms which vary in severity, from patient to patient and from season to season [9-10].

So to help the diagnosis of bronchial asthma, the dermatoglyphics patterns may prove a great help. However the studies on the correlation between dermatoglyphics patterns in asthma patients are few [6-10] used dermatoglyphics as a diagnostic aid in medical disease. Since then it has become a valuable tool in medicolegal, anthropological and genetic studies. In the present study, whorls, Ulnar loops, Radial loops and Arches were studied in 57 cases of chronic bronchial asthma, 57 first degree relatives of patients of bronchial asthma and 57 controls. The incidence of Whorls on both thumbs of patients of bronchial asthma were significantly higher

5. Conclusions

Presence of whorls on both thumbs of patients of bronchial asthma can be used as one of the diagnostic criteria for bronchial asthma.

No significant difference of the preponderance of the whorls is found in group B (relatives) as compared to group C (controls).

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