

# Prevalence of Simian Crease in General Population

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This prospective study was performed to access the prevalence of simian crease in general populations, was conducted at outpatient department of THQ, Khanpur from 1<sup>st</sup> to 31<sup>st</sup> January 1999. The hands of four thousand individuals, irrespective of age and sex, visiting outpatient department were examined to find out the presence simian crease. Out of four thousand individuals 40(1%) had unilateral simian crease while 12(0.3%) had bilateral simian crease. All the cases with bilateral simian crease had Down syndrome. The prevalence of unilateral simian crease is less, while that of bilateral simian crease is more in our country as compared to western countries.

**Key words:** Simian crease

The palmer creases are usually made up of proximal and distal transverse palmer creases and a thenar crease<sup>1</sup>. Occasionally, some people may have single transverse palmer crease. A single distal transverse palmer crease is called "Simian Crease" as do monkeys (Simians). A proximal single transverse palmer crease is called "Sydney Crease"<sup>2</sup>. Palmer creases develop early in embryogenesis by 11<sup>th</sup> to 12<sup>th</sup> week of gestation. Abnormalities in palmer creases indicate problems with the early development of the fetus and thus other associated abnormalities too<sup>3</sup>. Advancement in human scientific knowledge guided towards the relationship of certain characteristic dermatoglyphic findings with different medical diseases. This gained more importance with the discovery of genetic basis of the disease and genetic counseling became one of the most important aspects of medical management. Thus one can correlate some of the dermatoglyphic findings with the genetically transmitted diseases and important chromosomal disorders and get a clue for further clinical examination and investigations.

Flexion creases normally appear on palms and soles as part of handprint and soleprint respectively. In palmistry the simian line represents the merging of head and heart functions just as the lines themselves are merged. The person with this mark has trouble distinguishing thoughts from feelings and vice versa. Persons with simian crease on one hand often feel isolated, seeing themselves as radically different from their peers. They don't recognize their own talents and may consequently suffer from problems with self-esteem<sup>4</sup>.

In a country like ours, such studies of simple presentation of complicated diseases are important because of lack of diagnostic facilities or definitive diagnosis of suspects from different diseases.

## Patients and methods

Hands of 4000 individuals, irrespective of age and sex, visiting outpatient department of THQ Hospital, Khanpur were examined to find out the presence of simian crease. Those having unilateral or bilateral simian crease were selected for thorough physical examination to find out any

other clinical evidence of associated chromosomal genetic disorder.

## Results

The results are given in the table below

| Gender | n=   | Simian Crease |           |       | Down Syndrome |
|--------|------|---------------|-----------|-------|---------------|
|        |      | Unilateral    | Bilateral | Total |               |
| Male   | 2000 | 20            | 8         | 28    | 12            |
| Female | 2000 | 20            | 4         | 24    |               |
| Total  | 4000 | 40(1%)        | 12(0.3%)  | 52    |               |

## Discussion

Human interest in dermatoglyphic pattern and finger prints dates back to the time immemorial. The relationship of certain dermatoglyphic patterns with different medical diseases is an established fact now. Though unilateral simian crease is present in 2-5% of chromosomally normal population<sup>5</sup>. However, its presence is also associated with a large number of human diseases including Trisomy 18(30%), Trisomy 13(60%), Trisomy 21(50%), Cornelia Delange syndrome, Rubinstein Taybi Syndrome, Klinefelters Syndrome, Congenital rubella syndrome, Turner's syndrome, Pseudohypoparathyroidism fetal alcohol syndrome, Cohen syndrome and Aarskog Syndrome<sup>5,6,7</sup>.

The prevalence of unilateral of unilateral simian crease is 1% in this study, which is twice as it was noted by Alam S in 1993<sup>8</sup>. But it is quite low as compared to the prevalence described by most of the western text books<sup>6,7</sup>. In the present study 0.3% (12 cases) had bilateral simian crease and all of them were typical cases of Down syndrome. This percentage is significantly high as compared to UK & USA (0.15-0.2%). The most probable reason may be that women in our country do continue to reproduce till the end of their reproductive lives.

## Conclusion

The prevalence of unilateral simian crease is much less in our country as compared to western world. Moreover, the mere presence of simian crease does not necessarily mean chromosomal/genetic abnormality rather it warrants the examiner to evaluate thoroughly for any accompanying genetic/chromosomal disorder.

**References**

1. <http://www.avera.org/ency/article/003290htm>
2. <http://www.infolanka.com/org/genetics/cyberguid/bmg-ch1301-htm>
3. [http://www.google.yahoo.com/bin/simian crease.](http://www.google.yahoo.com/bin/simian%20crease)
4. <http://www.astropalmistry.com/study4.html>
5. Medical genetics. JM, MA Furguson-Smith 1<sup>st</sup> ed. 1984. Blackwell Scientific Publication..
6. Behrman RE, Kliegman RM, Jenson HB. In: Nelson Textbook of Pediatrics 16<sup>th</sup> ed. Philadelphia. WB Saunders 2000: 878-81.
7. Compbell AGM, Mcintosh N, In: Forfar & Arneils Textbook of Pediatrics. 5<sup>th</sup> Edinburgh Churchill Livingstone 1998: 1334-36.
8. Alam S, Mazhar AU, Pak Ped. J 1993; 17(4): 199-200.