INTRODUCTION:
Congenital cataract is a significant cause of visual impairment in childhood. Though it can be diagnosed at birth, but an early post natal detection & prompt treatment is a necessity for obtaining good visual outcomes.

OBJECTIVE:
The idea of taking up this study was to look for any correlation between dermatoglyphic pattern and congenital cataract and subsequently to use those findings for screening increasing general awareness of the parents.

METHOD:
Children suffering from congenital cataract coming for treatment to tertiary medical center were chosen and an observational study was done. Overall, fingerprints of 83 patients and their parents were compared with 83 unaffected children of the same age group along with their parents, over a period of 2 years. After collection of the fingerprint data, the tabulated and statistically analyzed by SPSS, IBM, Armonk, NY, USA.

RESULTS:
The comparison between left hand of the patient and controls the incidence of total number of arches was 4.17 (P = 0.003), similarly for simple arches 2.12 (P = 0.006) & radial loops 0.6 (P = 0.013). In the comparison between left hand of the parent and controls the incidence of total number of arches was 4.19 (P = 0.0013), similarly for simple arches 2.16 (P = 0.007) & radial loops 1.7 (P = 0.032). When comparing the right hand of the patient and controls the incidence of ulnar loop was 101:123 (P = 0.033), similarly for total loops 103:126 (P = 0.26) & total number of whohrs 104:79 (P = 0.014). When comparing the right hand of the parent and controls the incidence of ulnar loop was 91:138 (P = 0.00006), similarly for total loops 92:141 (P = 0.00002) & total number of whohrs 118:62 (P = 0.00001).

CONCLUSION:
So it can be concluded that, the incidence of total arches, simple arches and radial loops in case of both patient and parent when compared with controls were significantly low in right hand but the incidence of total number of whohrs was significantly more in case of both patient and parent when compared with controls.

KEYWORDS
Dermatoglyphics, Congenital Cataract, Screening, Finger Prints.
Similarities in findings were looked for. Complete case history and properly informed consent of parents was taken prior to taking the dermatoglyphic prints.

**RESULT:**

**Table 1: Different dematoglyphic patterns found in patients and parents (n=215)**

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Incidence in the right hand of the patients</th>
<th>Incidence in the right hand of the controls</th>
<th>Incidence in the left hand of the patients</th>
<th>Incidence in the left hand of the controls</th>
<th>Incidence in the right hand of the parents</th>
<th>Incidence in the right hand of the controls</th>
<th>Incidence in the left hand of the parents</th>
<th>Incidence in the left hand of the controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loops</td>
<td>103</td>
<td>126</td>
<td>126</td>
<td>109</td>
<td>92</td>
<td>141</td>
<td>85</td>
<td>125</td>
</tr>
<tr>
<td>Whorls</td>
<td>104</td>
<td>79</td>
<td>85</td>
<td>89</td>
<td>118</td>
<td>62</td>
<td>126</td>
<td>71</td>
</tr>
<tr>
<td>Arches</td>
<td>8</td>
<td>10</td>
<td>4</td>
<td>17</td>
<td>5</td>
<td>7</td>
<td>4</td>
<td>19</td>
</tr>
</tbody>
</table>

The total number of each of the patterns was then sub classified and compared with the control group for the patients and the parents.

The result is tabulated as below

**Table 2: Digital patterns among patients and controls**

<table>
<thead>
<tr>
<th>Study of digital patterns between patients &amp; controls – right hand</th>
<th>Patient's total value (n=215)</th>
<th>Control's total value (n=215)</th>
<th>&quot;p&quot; value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulnar Loop</td>
<td>101</td>
<td>123</td>
<td>0.033</td>
</tr>
<tr>
<td>Total Loop</td>
<td>103</td>
<td>126</td>
<td>0.026</td>
</tr>
<tr>
<td>Total Whorls</td>
<td>104</td>
<td>79</td>
<td>0.014</td>
</tr>
<tr>
<td>Total Arches</td>
<td>8</td>
<td>10</td>
<td>0.630</td>
</tr>
</tbody>
</table>

**DISCUSSION**

The different patterns present in the fingers were systematically reviewed to understand their incidence in the patients and the parents.

When the finger prints in both the hands of the 83 (eighty three) patients and their parents were observed, the following observation was made.

- The incidence of spiral whorls, ulnar loops & total number of loops was significantly less in the parents in right side.
- The incidence of concentric whorls, double loop whorls & total number of whorls was significantly more in the parents in right side.
- The total numbers of arches were less in patients, but it was not significant in right side.
- The incidence of central pocket whorls, simple arches, total number of arches, radial loops, ulnar loops & total number of loops was significantly less in both sides.
- The incidence of concentric whorls, double loop whorls & total number of whorls was significantly more in the parents.

In the left hand of the patients the incidence of ulnar loops (p = 0.001) was significantly less as compared to the control group. Similar finding was observed in case of the parents and the affected children. In the right hand of the patients the incidence of ulnar loops (p = 0.026) was significantly more compared to controls but in case of parents incidence of ulnar loop (p = 0.001) was significantly less compared to controls.

The incidence of radial loops was significantly less in the left hand of both patients (p = 0.013) and parents (p = 0.032). The incidence of total number of whorls in right hand was significantly more in both patients (p = 0.014) and parents (p = 0.00001). The incidence of central pocket whorls was significantly less in the left hand of the parents.

Additionally, the incidence of concentric whorls, double loop whorls was significantly more in the both hand of the parents as compared to controls. But the incidence of spiral loops was significantly less in the right hand of the parents. In case of patients these parameters did not show any significant changes.

In the left hand of patients incidence of simple arches (p = 0.06) and total number of arches (p = 0.003) was significantly less. Similarly in case of the parents of the affected patients the incidence of simple arches (p = 0.0007) and total number of arches (p = 0.0013) was significantly less.

So far, there has been a search for there is very little evidence for the same theme. The study of Dr. S.K. Angra et al in 1990, carried on 45 children with congenital cataract did not study the finger patterns. Hence, there was no data available for comparison with previous study. Finger patterns in congenital cataract has been studied for the first time.

**CONCLUSION**

After studying the digital patterns in detail of the patients and their
parents and comparing the results with the findings in the controls it can be concluded that the following criteria can be used for screening and subsequent counselling of the parents. In the left hand lower incidence of simple arches, total number of arches & radial loops. In the right hand, lower incidence of ulnar loops & total number of loops & higher incidence of whorls in the right hand.

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REFERENCE:
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