Interruption Exotropia in children: Towards a more successful surgical outcome
On long term follow up.
Heba Shafik, MD, PhD, Mohamed A. El-desouky, MD, PhD, Rabab M El-Sehet, MD, PhD, Molham A. EL-Bakary, MD, PhD.

Ophthalmology department, Faculty of medicine, Tanta University, Egypt.

INTRODUCTION

Intermittent exotropia accounts for more than 90% of all exodeviations (1,2) with a strong tendency to recur and drift into permanent exotropia during 4 or more years following surgery. The success rate of surgical correction of intermittent exotropia is between (68-80%) (3). Various factors such as age at onset of deviation, age at surgery, interval between onset of deviation and surgery, refractive errors, visual acuity, degree of control, type and amount of surgery performed and existence of binocular single vision before surgery were reported to influence the results of surgical correction (2).

The aim of our study is to evaluate factors influencing results of the surgical correction of intermittent exotropia on long term follow up.

METHODS

- Inclusion criteria: children with intermittent exotropia with no other ocular anomalies.
- Exclusion criteria:
  - Patients with developmental delay.
  - Amblyopia
  - Constant & secondary exotropia
  - Nystagmus.
  - Previous surgery.
- Three types of surgery were performed:
  - Group I: bilateral recession of the lateral rectus muscles.
  - Group II: unilateral recession of the lateral rectus with resection of the medial rectus muscles.
  - Group III: three muscles procedure: bilateral lateral rectus recession with medial rectus resection of the non dominant eye.

RESULTS

- This study was a prospective non randomized comparative study, 104 child met our inclusion criteria.
- Group I: 59 patients, Group II: 26 patients and Group III: 19 patients.
- Orthotropia or minimal eso or eso (≤10Δ) was considered success.
- 84 patients were considered success, 12 patients had exotropia > 10 Δ while 8 patients had esotropia > 10 Δ immediately after surgery.
- After 2 years, 62 patients maintained success, while 22 patients showed recurrence of exotropia. The success rate (SR) was 59.6%.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Group (I)</th>
<th>Group (II)</th>
<th>Group (III)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at onset of deviation (years)</td>
<td>3.31 ± 1.5</td>
<td>2.26 ± 1.5</td>
<td>3.31 ± 1.5</td>
</tr>
<tr>
<td>Age at time of surgery(years)</td>
<td>7.65 ±5</td>
<td>10.06 ± 2.6</td>
<td>2.33 ± 1.3</td>
</tr>
<tr>
<td>Interval between onset and surgery (years)</td>
<td>3.81 ± 4.1</td>
<td>3.81 ± 4.1</td>
<td>3.81 ± 4.1</td>
</tr>
<tr>
<td>B.C.V.A (Log MAR)</td>
<td>0.15 ± 0.1</td>
<td>0.09 ± 0.1</td>
<td>0.15 ± 0.1</td>
</tr>
</tbody>
</table>

Effect of control grade

<table>
<thead>
<tr>
<th>Control grade</th>
<th>Distant deviation angle (PD)</th>
<th>Postoperative</th>
<th>SR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>-20.9 ± 6.8</td>
<td>-2.3 ± 3.9</td>
<td>83.3</td>
</tr>
<tr>
<td>Moderate</td>
<td>-25.80 ± 7.5</td>
<td>-6.18 ± 5.9</td>
<td>67.7</td>
</tr>
<tr>
<td>Poor</td>
<td>-36.38 ± 14.2</td>
<td>-9.38 ± 7.3</td>
<td>64.3</td>
</tr>
</tbody>
</table>

P-value

| P-value | 0.11 | 0.09 | 0.28 |

CONCLUSIONS

Preoperative good control, lower preoperative distant angles and better fusional state achieved more successful outcome after surgery. Immediate minimal postoperative overcorrection decreased the tendency for recurrence in long term. Bilateral recession of lateral rectus muscles ± unilateral medial rectus resection had better results than unilateral recession–resection procedure.

REFERENCES