

**Symmetric versus Asymmetric Bilateral Lateral Rectus
Recession in Management of Basic Intermittent Exotropia
with Ocular Dominance**

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INTRODUCTION

Intermittent exotropia (XT), is the commonest type of exodeviation, and represents about 44.7% of all childhood exotropia[1]. Intermittent XT is classified into basic, true divergence excess, pseudo-divergence excess, and convergence insufficiency (CI) type [2, 3] The basic type where the deviation is similar at distance and near, is the most common subtype [4]

For basic XT, the choice of surgical procedure is still controversial. Many strabismologists prefer bilateral recession surgery (BLR) while others prefer unilateral recess-resect (RR) surgery [5-9]. The choice between either strategy depends on many factors including ocular dominance and surgical experience. Surgeons weight advantages of each procedure including easier surgical manipulations for BLR and higher success rates of the R-R procedure against drawback of each procedure including higher rate of recurrence in BLR versus higher rate of consecutive esotropia and lateral incomitance for R-R procedure [4, 10-13].

Despite ocular dominance is an important factor affecting long term results of surgery, no standard surgical procedure has been suggested for exotropic patients with a dominant eye. Some studies suggested the R-R procedure on the non-dominant eye for basic XT [2, 7, 10], while others suggested BLR, asymmetrical with more recession in the deviating non-dominant eye [14, 15] or symmetrical without considering effect of ocular dominance on surgical decision [16, 17].

In our study, we will compare long term motor and sensory effects of symmetric and asymmetric BLR recession in treatment of basic XT with a dominant eye.

AIM OF THE WORK

To study the clinical safety and efficacy of Symmetric versus asymmetric bilateral lateral rectus recession in management of basic intermittent exotropia with ocular dominance.

PATIENTS AND METHODS

This is a prospective study including patients diagnosed as basic intermittent exotropia with a dominant eye in the strabismus unit, ophthalmology department, Benha University Hospital. Written informed consent will be provided by legal guardian of each patient before inclusion in the study.

These patients will undergo complete ophthalmologic and orthoptic examinations before surgery including BCVA, cycloplegic refraction, state of ocular dominance and ocular motility assessment. The angle of deviation at far and near is measured with the prisms and alternating cover test. Eye dominance was determined with the alternative cover test. Sensory testing was performed using the Titmus stereo test and the Worth 4-Dot test at distance and near.

Patients with a history of orbital or scleral buckle surgery, and those with incommittant strabismus including thyroid eye disease, myasthenia gravis, Duane syndrome, cranial nerve palsies and patient with any degree of preoperative limitation of ductions were excluded. Besides, patients with a preoperative A or V-pattern, dissociated vertical deviation, or oblique muscle overactions were also excluded.

Patients will be randomized into two groups. The first group, referred to as the symmetric bilateral rectus recession group (S-BLR group). The other group, referred to as the asymmetric bilateral rectus recession group (A-BLR group).

In the S-BLR group, the amount of recession, based on the largest angle of exodeviation measured before surgery, was symmetrically divided between two eyes guided by standard strabismus surgical tables. In A-BLR group, the amount of recession in the non-dominant eye will be 2 mm more than in the dominant eye.

Postoperative measurements will be performed in the same way as the preoperative ones, at one week, one month, three months, six months, one year, and later at six months intervals after surgery. Outcome parameters at one year after surgery will be used for comparisons and analysis. Satisfactory outcome is defined as between 10 PD of exophoria/tropia and 10 PD of esophoria/tropia at one year after surgery. Recurrence is considered if alignment is more than 10 PD of exophoria/tropia, while overcorrection is considered if alignment is more than 10 PD of esophoria/tropia.

STATISTICAL ANALYSIS

Statistical analyses were performed using SPSS software version 17.0 (SPSS Inc, Chicago, IL). The pre- and postoperative values are described as means plus or minus standard deviations. The data were compared using the *t* test with a P value of $< .05$ was considered statistically significant.

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