

Reviewer's comments:

This manuscript can be accepted with major revision. The authors should answer the following comments and suggestions.

Our responses to reviewer's comments are high lighted in red.

1. The authors should extend the discussion section, they should also discuss their results with other literature and compare it, there is not enough literature cited.

We have extended the discussion, discussed other investigators work and compared, and cited their work. We have added 27 more references.

2. The limitations of the study should clearly be defined.

The limitation of this study is that a population of transiently injured patients was not available for comparison. In addition, there are not many reports in the literature to compare the finger movement at birth and the surgical outcome in OBPI patients.

## **Discussion:**

The integrity of the motor cortex and the corticospinal tract is critical for the movements of the extremities, and for the control of finger movements [12-17]. Finger movement at birth is an important indication of the functional and anatomical integrity of the brachial plexus.

There are numerous reports in the literature relating finger movements to brain region and brain damage [18-22], stroke [23-25], cerebral palsy [26-28], Parkinson's disease [29, 30], Carpal tunnel syndrome [31, 32], traumatic injury [21, 33-37]. However, there are only few reports correlating finger movements and obstetric brachial plexus injury [2, 38] and hand injuries, despite the hands are important in performing daily activities [36].

Finger movement at birth was evaluated as one of the potential risk factors for permanent injury and predictors of future osseous shoulder deformity [39]. Glenoid retroversion was significantly more severe in patients with finger movement at birth, and thus associated with the development of a worse glenohumeral deformity. Posterior subluxation was also more severe in these patients, however not significantly.

Although, the mean radiological scores show that lack of finger movement at birth is actually protective against bony deformities of the shoulder, yet, some patients in this group faced severe bony deformities (up to PHHA -31, and version -16, data not shown). Therefore, these patients also suffer extensive functional impairment that necessitated for surgical treatment.

Permanently injured patients with finger movement at birth develop more severe bony deformities of the shoulder than patients without finger movement at birth due, in part, to asymmetrical muscle action on growing bony elements, also underwent surgical treatment at the Texas Nerve and Paralysis Institute.

The outcome of triangle tilt surgery in terms of radiological scores (PHHA and version) was significantly higher in patients who have not had any primary surgeries and had finger movement at birth (Group I), when compared to patients who had primary surgeries (nerve, nerve and muscle surgeries) and lacked finger movement at birth (Group II). Other investigators have reported that some OBPI patients achieved voluntary finger movement with double free-muscle transfer [38].

Our present study is unique in that it evaluates the relationship between finger movement at birth, and the outcome of the primary and secondary surgeries in OBPI patients. Finger movement at birth, may be used as a simple and rapid clinical test, as a predictor of the outcome. The finger movement data in this study is based on retrospective information which was obtained from patient families. **The limitation of this study is that** a population of transiently injured patients was not available for comparison. **In addition, there are not many reports in the literature to compare the finger movement at birth and the surgical outcome in OBPI patients.**

New references added:

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