Functional Repair of Bilateral Cleft Lip

Essay
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Master Degree in General Surgery

By

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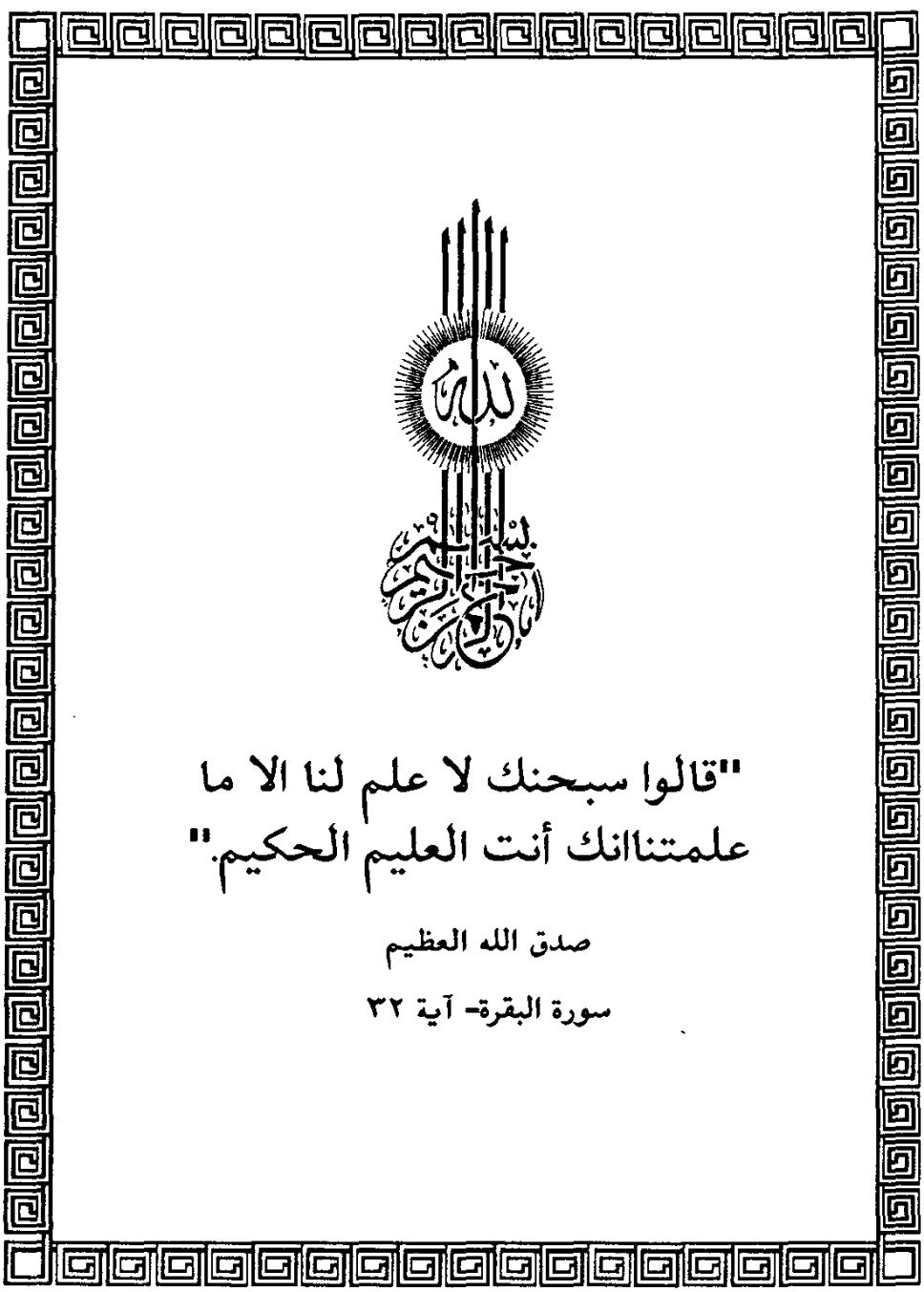

"قالوا سبحنك لا علم لنا الا ما
علمتنا انك أنت العليم الحكيم."

صدق الله العظيم

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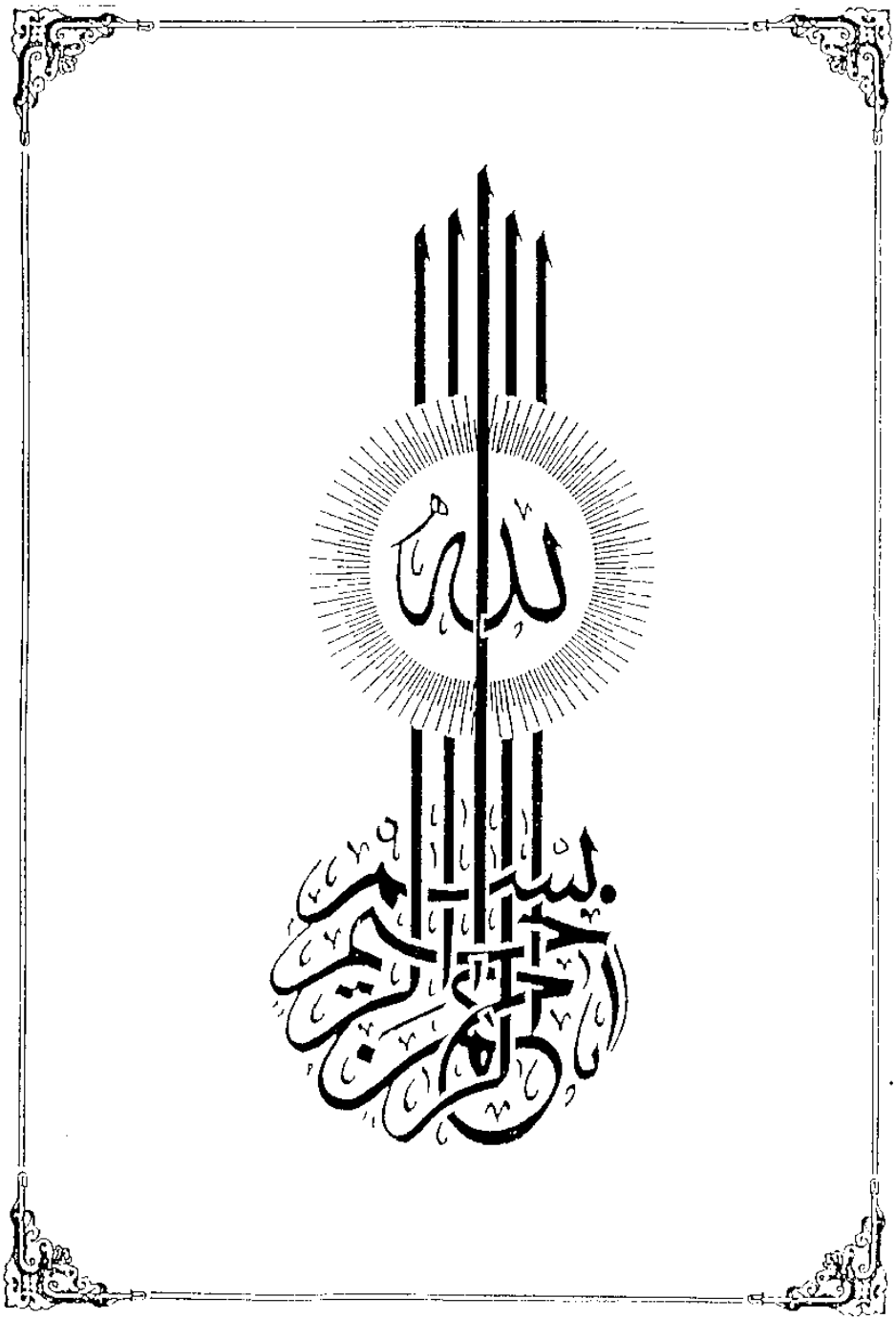

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CONTENTS

Central Library - Ain Shams University

LIST OF FIGURES

Page

Central Library - Ain Shams University

LIST OF FIGURES (CONT.)

Central Library - Ain Shams University

LIST OF FIGURES (CONT.)

Central Library - Ain Shams University

LIST OF FIGURES (CONT.)

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INTRODUCTION & AIM OF THE WORK

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INTRODUCTION

Bilateral cleft of the lip and palate is by many standards the most complex and severe form of the deformity.

The complexity and severity of the defect requires an unusual degree off cooperation among all species and especially between the surgeon and the orthodontist, **[Bardach, 1990].**

The repair of a cleft lip, indeed the repair of many deformity, aims to restore the normal anatomy as far as is possible. Such a repair must be based on a thorough knowledge of the normal anatomy and a proper understanding of such displacement as may occur, **[Abbe, 1988].**

For bilateral cleft lip repair, the following operative principles are recommended by **Brown [1947].**

(1) Maintain symmetry.

(2) Secure primary muscle union.

(3) Select proper prolabial size and configuration.

(4) Form the median tubercle and mucocutaneous ridge from lateral lip tissue.

(5) Construct the nasal tip and columella by anatomic placement of the alar cartilage.

Functional cleft lip repair therefore, can produce a satisfactory appearance

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after one operation even when done by surgeons with limited experience. This functional repair maintains three key elements of the lip that are difficult to achieve or restore secondarily by any surgeon, i.e. a good scar, maintenance of the alar -facial groove, and adequate lip height without compromise of horizontal lip length.

The revisions that might later be required to improve lip appearance are also accomplished with relatively simple straight forward reconstructive technique, **[Dado, 1988].**

Aim of the Work:

The aim of this essay is to review the different techniques of bilateral cleft lip repair with stress on the functional repair techniques.

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REVIEW OF LITERATURE

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EMBRYOLOGY

In mamals, development of the upper lip and the primary palate is intimately associated with the formation of the primitive mouth or stomodium. In an early somite embryo, the stomodium has the intact oral membrane as its floor and it is bounded cranially by neural plate, caudally by pericardium and laterally by the mandibular process of each first pharyngeal pouch.

By the late somite stage, the oral membrane has broken down, establishing continuity between the stomodium and the primitive pharynx, and another swelling. The maxillary process has grown towards the stomodium from the dorsal end of the first arch.

The stomodium is now bounded cranially by the frontal bulge of the forebrain, laterally by the early maxillary process and caudally by the mandibular processes which approach each other and fuse across the midline to form the primitive lower jaw and lip, (Fig. 1).

Bilateral ectodermal thickenings (the olfactory nasal placode) appear above the lateral angles of the stomodium. Proliferation of the mesenchyme near each placode causes the elevation of a horse show shaped area of the surrounding ectoderm. The limbs of the horse shoe are termed the medial and lateral nasal folds, (Fig. 2,3). The nasal folds, together with the intervening convex frontal area, constitute the frontonasal process.

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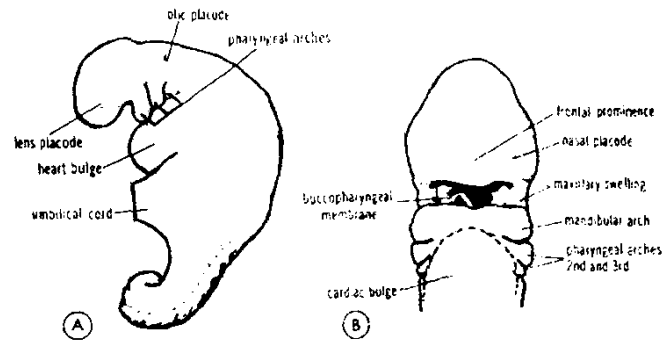

Fig. (1) : A, Lateral view of an embryo at the end of the fourth week showing the position of the pharyngeal arches; B, Frontal view of a four-and- one half - week embryo. Note the break down of the buccopharyngeal membrane and the location of the mandibular and maxillary swellings.The nasal placodes are visible on either side of the frontal prominence. *[After : Sadler, 1985]*

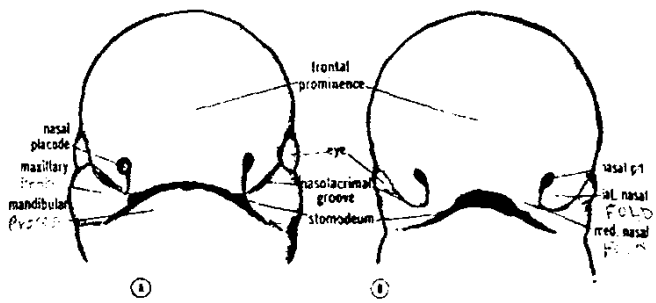

Fig. (2) : Frontal aspect of the face. A, five week embryo; B, sex week embryo. The nasal swellings are gradually separated from the maxillary swelling by deep furrows. At no time during normal development does the tissue in the furrows break down. *[After : Sadler, 1985]*

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