Primary Repair of Secondary Cleft Palate

Essay

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In General Surgery

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بسم الله الرحمن الرحيم

قل إن صلاتي و نسكي و محياي و مماتي لله رب العالمين لا شريك له و بذلك أمرت و أنا أول المسلمين

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الأنعام (162-163)

Contents

List of figures

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"This work is dedicated to
My parents,
My wife,
And my sons"

Chapter 1

Introduction and Aim of the Work

Introduction

The presence of a cleft palate introduces feeding difficulties, concerns regarding speech development, and the possibility of impaired facial growth ***(Hooper et al., 2007).***

Orofacial clefts are the most common facial malformations in all populations and ethnic groups. Every day 700 children with cleft lip and/or cleft palate are born in the world, which means that a baby with cleft is born every 2 min or 240,000 children/year ***(Ranko et al., 2008).***

The secondary palate consists of the hard and soft palates from the incisive foramen back to the uvula ***(Hooper et al., 2007).***

Both environmental teratogens and genetic factors are implicated in the genesis of cleft lip and palate. teratogens, such as alcohol, anticonvulsants, and retinoic acid, are associated with malformation patterns that include cleft lip and palate ***(Hooper et al., 2007).***

Under normal conditions, the palate functions in concert with the pharyngeal musculature to close the velopharyngeal valve. Clefting of the palate results in an absence of velopharyngeal closure and the inability to build up and sustain intraoral pressure. This has

significant effects on both early feeding and the development of normal speech. In addition, the abnormal muscle anatomy present in cleft palate has an indirect effect on the function of the middle ear through the resultant anatomic disturbance present along the eustachian tube orifice from which the primary palatal muscles originate ***(Bauer and Patel, 1999).***

The French dentist LeMonnier performed the first surgical repair of a congenital cleft palate in the 1760s. The three-stage operation consisted of passing sutures through the cleft borders, cauterizing the cleft edges, and realigning the fresh edges ***(Sadove et al., 2004).***

The history of cleft surgery reflects an evaluation of techniques designed to improve surgical outcome. Despite the great advances in cleft surgery, many unanswered questions remain regarding the optimal timing and techniques of surgical procedures that profoundly influence facial aesthetics, psychological function, dental development and speech development ***(Kirschner and LaRossa, 2003).***

Although surgeons such as Veau still believed that closing the cleft palate early would improve speech development, many others began to think differently and emphasized the need for normal midfacial and palatal development. They recommended that cleft palate closure

be postponed until either the deciduous or the permanent dentition had erupted ***(Berkowitz, 2006).***

Cleft palate repair is usually performed at approximately 9 to 18 months of age. In deciding the timing of repair the surgeon must consider the delicate balance between facial growth restrictions after early surgery and speech development that requires an intact palate to produce certain speech sound by 18 months of age ***(Costello and Ruiz, 2004).***

Caring for the child with cleft palate require a multidisciplinary approach that begins with evaluation for other possible congenital anomalies, decisions about timing of repair, and choice of the techniques. Postoperative follow up similarly requires a team approach and should include an otolaryngologist, an orthodontist, and a speech therapist ***(Sadove et al., 2004).***

Aim of the Work

The aim of this work is to highlight the different surgical techniques applied for the primary surgical management of secondary cleft palate together with the advantages and disadvantages of such techniques.

Chapter 2

Historical Background