

Extensile Posteromedial and Posterolateral Release of Club Foot Through Cincinnati Incision, An Experience at Nishtar Hospital Multan

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ABSTRACT

Objective: To evaluate the results of extensile posteromedial and posterolateral release (modified Mckay's procedure) through Cincinnati incision at Orthopaedic unit II Nishtar Hospital Multan.

Patients and Methods: Twenty children with twenty two congenital talipes equinovarus (CTEV) feet with moderate or severe degree of deformity operated between March 2010 to April 2012. Eight children 40% were female and twelve children 60% were male. Two presented with bilateral, 6 with right and 12 with left foot involvement. All the twenty-two feet were treated with extensile posteromedial and posterolateral release through Cincinnati incision.

Results: Patients were evaluated clinically. Average follow up was nine months and results were satisfactory.

Key words: Talipes Equinovarus deformity of foot, Modified Mckays procedure, Cincinnati incision.

INTRODUCTION

Congenital talipes equinovarus (CTEV) or clubfoot is defined as fixation of foot in cavus, adductus, varus and equinus with soft tissue abnormality¹. This is one of the most common congenital deformity of lower extremity². Bilateral clubfoot occurs in 50% of the patients³. The treatment of clubfoot is non-operative and operative. Soon after birth the initial treatment should be non-operative. Surgery in clubfoot is indicated for deformities that do not respond to conservative treatment⁴.

Many surgical procedures have been recommended. A modified Mckay procedure through a transverse circumferential (Cincinnati) is preferred technique in many centers of world⁵. We have started this technique in our institute and found that this incision provides excellent exposure for complete and extensile release of soft tissues.

PATIENT AND METHODS

This descriptive study was carried out in orthopedic Unit-II Nishtar Hospital Multan from March 2010 to April 2012. We included twenty patient with twenty-two feet. All were idiopathic clubfoot deformities. There were eight females (40%) and twelve (60%) were male. All of the patients were operated in general anesthesia with tourniquet and in prone position. Extensile posteromedial and posterolateral release (Modified Mckay procedure) through Cincinnati incision was performed. Above knee cast was applied with knee flexed approximately 90° and foot in slight equinus. Cast was changed after two

weeks. New cast was applied in corrected plantigrade position. Stitches were removed after six weeks and cast was again applied. The cast was discarded, twelve weeks after surgery and patients were advised to wear orthosis till the start of walking.

40.9% feet were grade-II and 59.1% were in severe deformity. Table 1 shows distribution according to severity of deformity. Grading of deformity was done on clinical evaluation.

RESULTS

The study included 22 feet in 20 children. Average follow-up was 9 months. Results were graded according to Thompson etal criteria. Nine children presented with grade-II and 13 children had severe deformity (Grade-III). The results were excellent in 11 feet (50%), good in 7 feet (31.8%), fair in 3 feet (13.6%) and poor in one foot (4.5%). Clinically 18 of 22 feet (81.81%) had satisfactory results.

Table 1:

Grade	No. Of feet	%age
I	0	0
II	9	40.9
III	13	59.1

Table 2: Summary of success rate

Satisfactory (Excellent+good)	Unsatisfactory (Fair+poor)
81.81%	18.18%

DISCUSSION

Surgery in clubfoot is reserved for unresponsive to conservative treatment. Some surgeons prefer to intervene early between the ages of three and six months, while others prefer to delay surgery until child is nine and twelve month old⁶.

In our series we operated between the ages of six months to nine months and found easy to perform surgery on older child as compared to younger ones. Early surgery demands a thorough understanding of pathoanatomy and meticulous surgical techniques to prevent excessive scarring and damage of cartilage.

The procedure described by McKay takes into consideration, the three-dimensional deformity of subtalar joint and allows correction of internal rotation deformity of the calcaneus, and release of the contractures of posterolateral and posteromedial foot. Complete subtalar release has been done through Cincinnati incision or two separate incisions. McKay reported 82% satisfactory results using Cincinnati incision for complete subtalar release^{7,8}. Simons achieved 72% satisfactory results treated with complete subtalar release through two incisions⁹. In this study 81.81% satisfactory results were obtained in 18 out of 22 feet. When this incision is used, great care must be exercised to preserve the vessels, that supply heel flap. Loss of heel flap means, not only loss of correction but exposure and infection of the calcaneum.

CONCLUSION

Complete subtalar release through Cincinnati incision is more extensive surgical procedure. Clinical evaluation demonstrated that it resulted in higher

percentage of satisfactory result i.e., 81.81%. Especially the result are superior in older children and with severe degree of deformity.

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