

CASE REPORT

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Idiopathic talipes equinovarus with preaxial polydactyly of the foot: a case report

Ali Tufan Pehlivan¹, Suleyman Semih Dedeoglu², Yunus Imren²

¹ Hatay Kırıkhan State Hospital, Hatay Turkey

² Okmeydanı Training & Research Hospital, Istanbul, Turkey

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Abstract

The aim of this study is to report an unusual combination of congenital idiopathic talipes equinovarus with preaxial polydactyly of the foot. A newborn infant was brought to the polyclinic at the age of 1 week. In the right foot, preaxial polydactyly was seen in addition to the club foot deformity. The preaxial polydactyly of the patient was surgically excised. The sutures were then removed and a series of plaster casts were applied according to the Ponseti method. Then a Dennis-Brown brace was applied with both feet. This case shows that combination of congenital idiopathic talipes equinovarus with preaxial polydactyly of the foot can be treated successfully by apply the standard Ponseti method after the surgical excision of the polydactyly.

Keywords: Talipes equinovarus, polydactyly, idiopathic

Introduction

Conjenital club foot (talipes equinovarus) deformity is a disease of unknown etiology. Varus, cavus and equinus deformities are seen in both the hindfoot and forefoot at a prevalence of between 1/700 and 1/1000 [1]. When the deformity is not treated, it results in a non-functional, painless foot. In recent years, successful treatment has been applied with the Ponseti method.

Polydactyly is a deformity characterised by a greater than normal number of fingers or toes and is seen at the rate of 1.7/1000 [1]. It is separated into 3 groups as preaxial, postaxial or central [2,3]. While preaxial polydactyly is seen more often in the hand [4], postaxial polydactyly is more commonly seen in the foot [5,6]. Polydactyly in the foot is generally treated surgically because of the problems for adults of wearing shoes or for cosmetic reasons. The time of surgical treatment is usually below the age of 1 year (9-12 months) [7].

Case Report

A newborn infant was brought to the polyclinic at the age of 1 week. Club foot deformity was observed in both feet. In the right foot, preaxial polydactyly was seen in addition to the club foot deformity (figure 1, figure 2). In our clinic, treatment with the Ponseti method is applied to patients with club foot. Treatment is started in the shortest possible time after diagnosis of club foot.

However, in this patient, the preaxial location of the extra toe would prevent the plaster casting technique. Therefore, it was decided

that it was necessary to first treat the polydactyly. The preparations for surgery were started. The patient had no comorbidities.



Figure 1. Club foot deformity was observed in both feet. In the right foot, preaxial polydactyly was seen in addition to the club foot deformity

The preaxial polydactyly of the patient was surgically excised. Then regular dressings were applied for a period of 2 weeks for the wound site to heal (figure 3). The sutures were then removed and a series of plaster casts were applied according to the Ponseti method (figure 4). For a period of 5 weeks, plaster casting was applied each

Corresponding Author: Ali Tufan Pehlivan, Hatay Kırıkhan State Hospital, Hatay, Turkey,

E-mail: alitufanpehlivan@yahoo.com

week. At the end of 5 weeks, the varus and cavus deformities in the foot had been corrected. Equinus deformity continued in both feet (figure 5). Preparations were made for surgery. Achillotomy was applied to both feet as surgical treatment (figure 6). At the end of surgery, plaster casting was applied to both lower extremities in accordance with the Ponseti method. The plaster casts were not removed for 3 weeks. At the end of 3 weeks when the plaster casts were removed, the equinus deformity was seen to have been corrected in both feet. A Dennis-Brown brace was applied with both feet in 70° abduction and 10°-20° dorsiflexion (figure 7). In the 2nd (figure 8) 3rd (figure 9, figure 10) months of the bracing treatment, the cavus, varus and equine deformities in both feet were observed to have been corrected. It is planned to continue the bracing treatment until the patient is 2-4 years old.



Figure 4. The preaxial polydactyly of the patient was surgically excised



Figure 2. In the right foot, preaxial polydactyly was seen in addition to the club foot deformity



Figure 5. Series of plaster casts were applied according to the Ponseti method



Figure 3. Pre-op X-ray



Figure 6. At the end of 5 weeks, the varus and cavus deformities in the foot had been corrected. Equinus deformity continued in both feet



Figure 7. Achillotomy was applied to both feet as surgical treatment



Figure 10. 3rd month of the bracing treatment



Figure 8. A Dennis-Brown brace was applied with both feet in 70° abduction and 10°-20° dorsiflexion



Figure 11. 3rd month of the bracing treatment



Figure 9. 2nd month of the bracing treatment



Figure 12. Post-op X-ray



Figure 13. Post-op X-ray

Discussion

Polydactyly in the foot is frequently seen and there are various classifications for this disease. The most commonly used classification is grouping as preaxial, postaxial or central. Polydactyly seen in the foot is more often in the form of postaxial polydactyly [5,6]. It is generally treated before the patient reaches walking age [8].

Congenital idiopathic talipes equinovarus is a disease which impairs the physiological morphology of the foot. Treatment should be started immediately after the diagnosis is made. Successful treatment is made with the method of a series of plaster casts as described by Ponseti et al [9,10]. In a systematic review by Jowett et al in 2011, it was reported that the Ponseti method was the most

important and successful method in the treatment of congenital idiopathic talipes equinovarus [11].

The combination of congenital idiopathic talipes equinovarus with polydactyly of the foot is not common. In a study by Toufaily et al, no additional malformation was determined in 95.8% of isolated talipes equinovarus deformities [12]. In the case presented here, preaxial polydactyly was seen together with club foot deformity. In our clinic, it is preferred to initiate treatment of patients with club deformity immediately after diagnosis is made. Surgical treatment of patients with polydactyly of the foot is made before the patient reaches walking age (9-12 months). However, in this case it was necessary to change the treatment protocols. As the preaxial polydactyly in this patient prevented the plaster casting of the Ponseti method, treatment was first applied to the polydactyly. Following surgical excision of the polydactyly, the standard Ponseti regime was applied. Physiological morphology of the foot was achieved for this patient. The early results of this treatment are presented here.

Conclusions

The early results are here presented of a case with preaxial polydactyly which could prevent the plaster casting treatment with the Ponseti method for club foot deformity after the surgical excision of the polydactyly. When similar cases are encountered, this case could be an example at the stage of making the decision for treatment.

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