

Neglected Congenital Clubfoot in Adult 56 Years Old Patient

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ABSTRACT

Aim and objective: This study aims to describe the rare case of neglected congenital clubfoot.

Background: Congenital clubfoot is the most present type of foot deformity. The treatment of this severe congenital deformity begins immediately after birth and it can be very complex. There are different bone and soft tissue surgery procedures using in the treatment of these deformities. Severe cases of neglected congenital clubfoot are treated by triple arthrodesis. Cases of neglected congenital clubfoot are rarely noticed in actual literature.

Case description: There is a case of 56-year-old female patient with neglected congenital clubfoot deformity. She was born with this deformity and she had never had a medical treatment before. Clinical examination revealed the unsatisfactory cosmetic and functional status of the right foot. Triple arthrodesis of the foot after corrective closed wedge osteotomies in the midfoot and subtalar complex with posterior capsulotomy and Achilles tendon lengthening had been performed. Final cosmetic and functional results are good and the final psychological effect on the patient is excellent.

Conclusion: Corrective osteotomies of the foot with triple arthrodesis and Achilles tendon lengthening is the method giving good and acceptable results.

Clinical significance: Surgical correction of the deformity is very important because the effects of surgical correction positively reflect on the function of limbs, esthetic appearance, and a positive psychological effect on the patient.

Keywords: Adulthood, Closing wedge osteotomy, Congenital clubfoot, Neglected.

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BACKGROUND

Congenital clubfoot is a well-known type of foot deformity and it has been described in the literature. The treatment of these deformities starts immediately after birth and it consists of non-operative or operative treatment, regarding the severity of the deformity. Cases of neglected congenital clubfoot deformities are very rare in developed countries while it is more common in developing countries.¹ The treatment of these cases is more difficult and requires the special skills of an orthopedic surgeon. There is a little number of works in the literature about neglected congenital clubfoots in adult patients.² In severe deformities, triple arthrodesis corrects deformed foot by lateral closing wedge osteotomy through the midtarsal and subtalar joints.³ In this work, there is presented the case of a very rare unilateral neglected congenital clubfoot deformity in 56-year-old female patient.

CASE DESCRIPTION

A female, 56-year-old patient had come to our hospital for an orthopedic ambulatory examination in year of 2009. Severe rigid, uncorrectable deformity of the right foot—idiopathic congenital clubfoot was observed clinically and radiologically (Fig. 1). Cosmetic and functional status of the right foot were unacceptable. Anamnestic data reported that she was born with the foot deformity, which has not been treated, her parents had never taken her to see a doctor, she was living in the countryside where she had finished primary school. She has experienced problems with her foot in early childhood which continued up to the adulthood. The problems included pain in the foot and antalgic gait. Regardless the difficulties that she faced her everyday activities included house and agricultural chores, taking care of the children and farm animals. Clinically, the patient had normal musculoskeletal corpulence, her height was 162 cm, and her weight

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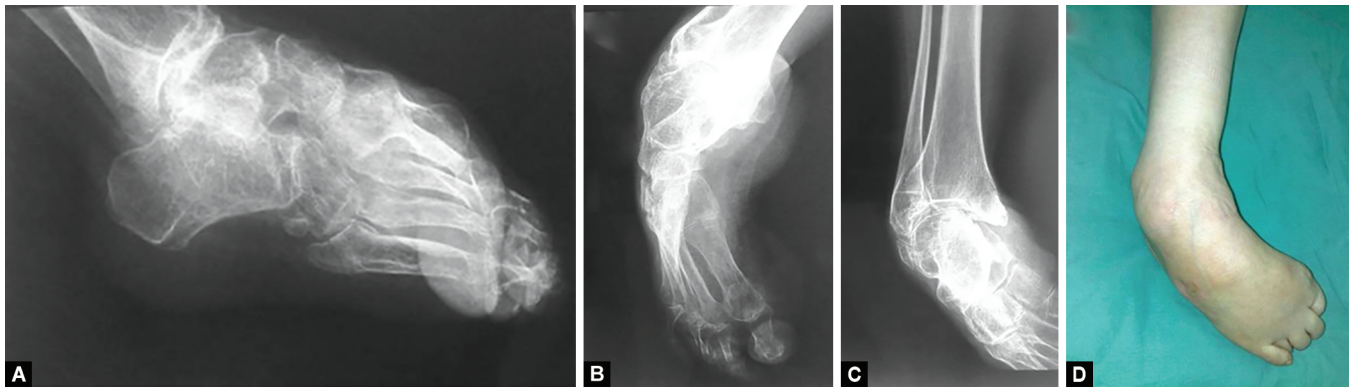
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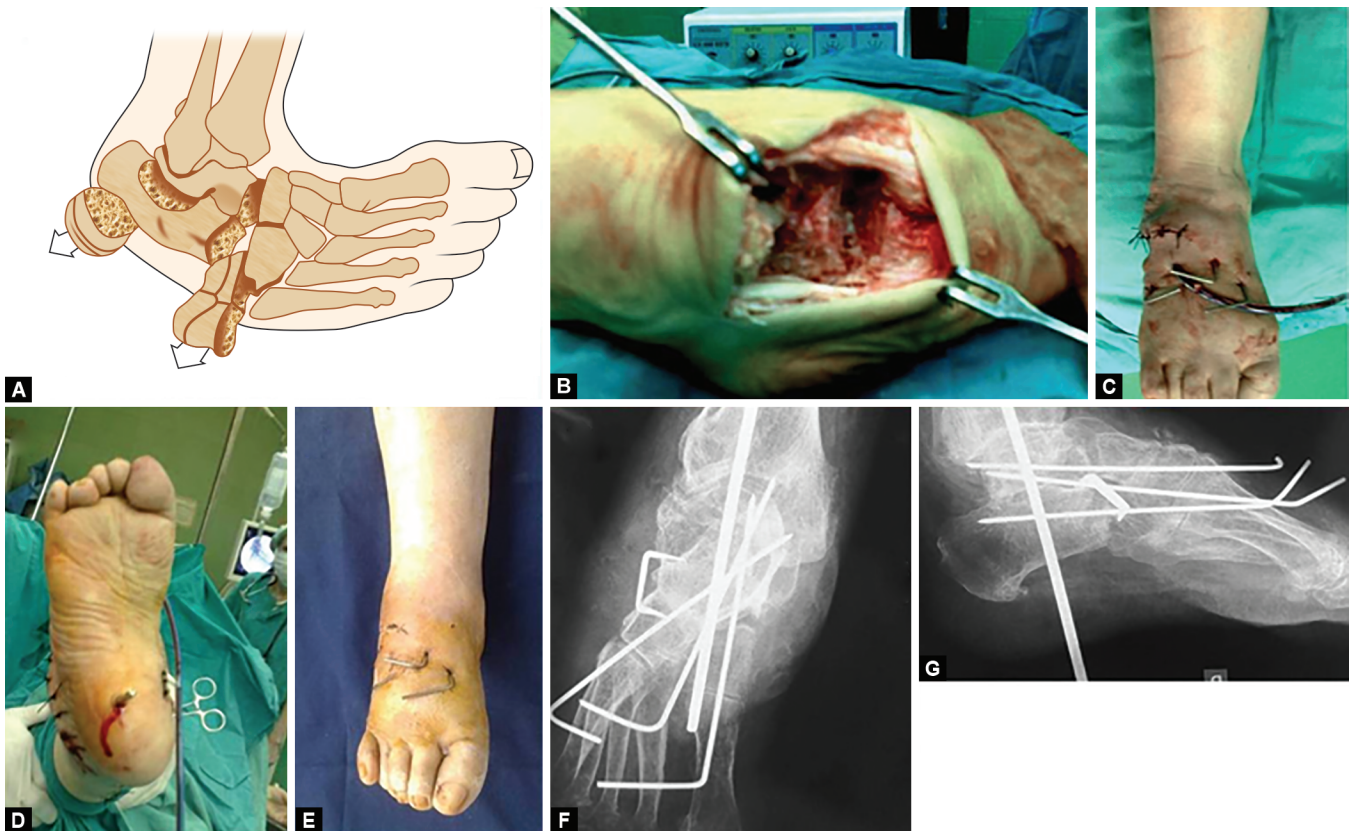
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was 65 kg. X-rays showed expressive thoracolumbar scoliosis with degenerative spondyloarthrosis in thoracolumbar spine segment. There were no knee deformities. Beside the foot deformation she did not have any other deformities. Lab analysis within normal limits, TA 130/85 mm Hg. Otherwise, she did not suffer from a mental illness, she had finished primary school, she lived in a small village, and she is married and has her own family. After moving to the city, her cousin, who is a health professional, suggested her to see an orthopedic surgeon for an ambulatory examination. Regarding the patient's age and our surgical experience, the plan was made to perform triple arthrodesis procedure after closing wedge osteotomies of the foot. Surgical procedure, consisting of closing wedge osteotomy through the subtalar and midtarsal joints, had been performed in spinal anesthesia (Fig. 2). We used lateral Ollier approach for the foot osteotomies and posterior approach for the Achilles tendon lengthening. Posterior capsulotomy and Achilles tendon lengthening (Z-plasty) were performed. The foot fixation had been performed using the K-wires and bone staple.



Figs 1A to D: Preoperative radiographic (A to C) and clinical (D) images



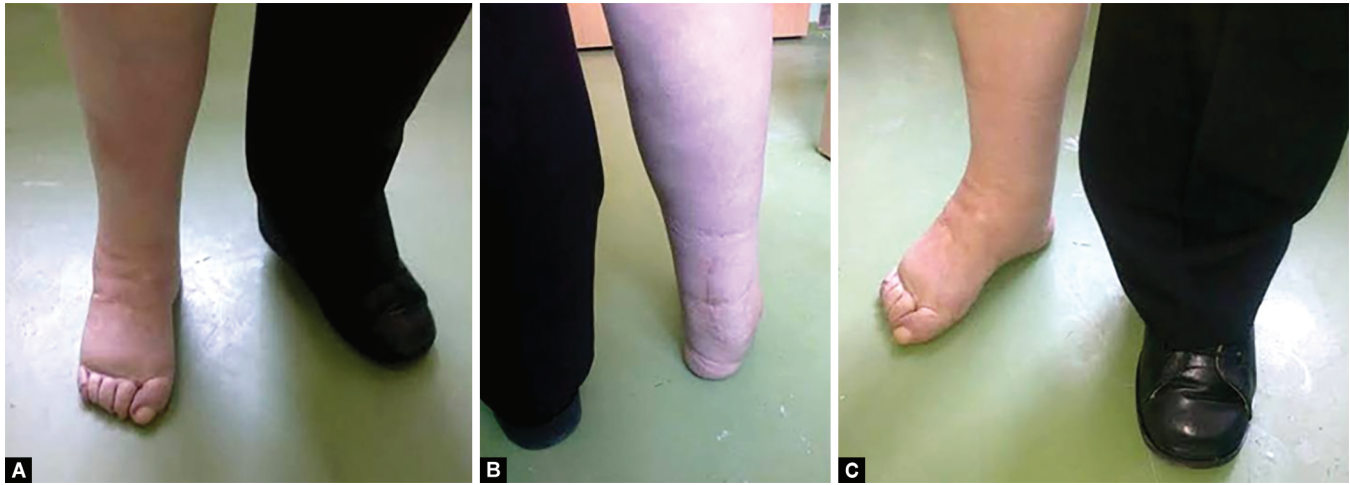
Figs 2A to G: Intraoperative (A and B), postoperative clinical (C and E), and radiographic (F and G) images

Ankle joint had been fixed by Steinmann pin. Bone parts tapped after osteotomy were used as bone grafts stimulating better bone fusion. The patient's foot was immobilized after surgery in corrected position by the use of an above knee plaster cast for 2 months. K-wires wires and Steinmann pin were extracted 2 months after surgery and functional plaster cast for walk had been applied. Physical therapy was starting after removal of the plaster cast. Full body weight bearing on operated leg was achieved 4 months after surgery. Two years after surgery, the patient is satisfied with cosmetic and functional results (Fig. 3). Functional outcome is good, treatment results are quite acceptable both in cosmetic and in functional terms and final psychological effect on the patient is excellent. The patient walks without any additional support, she

started to wear normal shoes and the gait is satisfactory. Sometimes, after major physical work and after long standing or walking there are swelling and mild to moderate pain in the foot. Afterward, rest leads to loss of the pain without any analgesics use.

DISCUSSION

Congenital clubfoot is the most common type of congenital foot deformity. The incidence of congenital clubfoot is approximately 1 in every 1,000 live births. The treatment begins next after birth with the use of plaster splints or braces and with early physical therapy. Serious types of deformity are treated surgically and there are a lot of recommended soft and bone tissue surgical procedures. In some



Figs 3A to C: Clinical images of the foot, 2 years after surgical correction

patients with congenital clubfoot, it is necessary to perform several surgical procedures until obtaining satisfactory results. The goal of the treatment is to obtain as more as possible anatomical correction of the foot without pain, with a medium range of movement, and without the need for special shoes wearing.⁴ Unfortunately, the treatment often does not result in fully normalized appearance and function of the foot. Non-treated congenital clubfoot cases are almost absent in highly developed countries, while it is present in developing countries. Neglected congenital clubfoot deformity in adult patients can be difficult to correct. It is usually a rigid deformity associated with a degenerative change of the hindfoot joints. The treatment can be very complex and final outcomes sometimes can be unsatisfactory both for the patient and for the surgeon. Actual literature describes different surgical methods for the treatment of these deformities. One of these methods is triple arthrodesis of the foot after corrective closing wedge osteotomy through the subtalar and midtarsal joints.^{3,5,6} In addition to bone surgery, it is also necessary to perform posterior capsulotomy and Achilles tendon lengthening. Authors of this paper decided to use this method due to the patient's age and surgical team competence for this kind of surgery. Other method of treatment is foot osteotomy and external fixation by Ilizarov apparatus. The Ilizarov external fixator allows simultaneous correction of foot deformities with minimal invasion surgery.^{7,8} Although Republic of Serbia's healthcare system is on satisfactory level, there are still places with, unfortunately, low perception about health care and low level of education and enlightenment that can have bad influence on people's health status. Cases of neglected congenital clubfoot in adults are rarely noticed in actual literature. Corrective osteotomies of the foot with triple arthrodesis and Achilles tendon lengthening is the method giving good and acceptable results. Surgical correction of the deformity is very important, because the effects of surgical correction positively reflect on the function of limbs, esthetic appearance, and a positive psychological effect on the patient.

CONCLUSION

Corrective closing wedge osteotomies of the foot with triple arthrodesis and Achilles tendon lengthening is the method giving good and acceptable results in patients with neglected congenital clubfoot deformities.

CLINICAL SIGNIFICANCE

Surgical correction of the neglected congenital clubfoot deformity is very important because the effects of surgical correction positively reflect on the function of limbs, esthetic appearance, and a positive psychological effect on the patient.

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