The use of external fixator in the management of resistant and relapsed clubfoot

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SUMMARY AND CONCLUSIONSU••• RY IND CONCLUSIONHippocrates (1927) was the first to advocate orthopaedic treatmentof the idiopathic clubfoot by gentle manipulation and bandaging.According to Turco (1979) manipulative treatment leads to a 35%success rate, whereas surgery is the method of treatment in about 65% ofidiopathic talipes equino varus feet (CTEV) .:Regardless of early and adequate surgery, the failure rate remainsas high as 20%. When facing complex congenital foot deformities, thisrate offailure is even higher.In the relapsed clubfoot and neglected cases, the recommendedtreatment will include repeated soft tissue procedures, osteotomies, bonyresection, or arthrodesis; Although, a satisfactory and permanentcorrection can be achieved, the salvage procedures correct only onedeformity at a time. They are preferably performed at skeletal maturityand often produce a short stiff foot. By progressive soft tissue stretching,the external fixator seems to avoid the above problems, allowing asimultaneous three dimentional correction at the same time without theneed for bony resection or fusion.Twenty patients of relapsed and neglected clubfoot treated by anassembled external fixator followed by serial corrective casting, aboveknee night splint, and medical boot. The average age at time ofapplication of the fixator was 8.5 year, and the duration of follow up carevaried from 9 to 30 months._____ 7•• 1'•••••·.· •••••••• --- •• ----SUMMARY AND CONCLUSIONDealing with the treatment of relapsed idiopathic clubfeet, manymajor problems resulting from previous surgeries; these include abundantscar tissue, a risk of neurovascular and skin compromise, and residualbone and joint deformation, all factors. limiting the extent of the finalcorrection. Moreover, in many patients, bone resection or fusion will beneeded to improve the clinical appearance of the foot, leading to a stiffand shortened foot.The basic advantage of this external fixator is the progressivestretching of the soft tissue and neurovascular structures, allowingsignificant correction with fewer risks of neurovascular or skincompromise. In younger patients, after foot correction, bone and cartilageremodeling can be expected, which helps to maintain a lasting correction.This fixator has some advantages over conventional methods. Itachieves three-dimensional correction in the skeletally immature patients.Moreover, if a residual deformity persists, it can allow a later arthrodesisin a better position without extensive bony resection. A plantar grade footcan be obtained but only a long-term follow up study will help todetermine the optimal age for surgery, as well as the long-term

functionalresults.Also, the fixator has advantages over the Ilizarov, as it is moresimple, less expensive, and its application is so easy.Using complete clinical evaluation and a separate radiographicmeasurement, according to Simons rating system (1985), satisfactoryresults were obtained in ?1% and unsatisfactory result in.ll% of patients._____ •••• 1.'••••• [SUMMARY AND CONCLUSIONMaintenance of the surgical correction by the fixator is achieved byserial plaster 'casts, above knee night splint, medical boot and a strictprotocol of physical therapy.from this study, we can conclude that; this external fixatorrepresents an attractive alternative to invasive surgery for the replacedand neglected clubfoot as it is used as a distraction device, but generallywithout the use of osteotomies. The device offer an alternative toconventional surgery and has several significant advantage.We are currently performing further biomechanical studies of thefixator assembly' to produce an improved version. This method will needa future, careful and longer studies to answer certain questions before itsuniversal application is recommended.