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original work

Non-invasive correction of congenital ear malformations with the EarWell Infant Ear Correction System: A prospective study

Non-invasive correction of congenital ear deformities with the EarWell Correction System: a prospective study

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Summary

Background Ear deformities occur in up to 5% of all newborns. Modeling of the ear cartilage is possible in the first 6 weeks of life, as maternal estrogen is present in the infant's circulation up to this point. Numerous surgical methods for ear correction are available in childhood and adolescence. For several years now, the EarWell™ Infant Ear Correction System has been available as a modular system for treating ear malformations in early childhood, which takes advantage of the malleability of the ear cartilage in the first six weeks of life.

Patients and methods A total of 19 newborns were included in this prospective study. The following auricular deformities were treated: cup ear, Spock ear, floppy ear, steel ear deformity, missing helix or antihelix formation. The results were re-evaluated 2 years after application of the EarWell™ system. The clinical assessment was carried out by 2 independent examiners using pre- and post-interventional images. The following parameters were also recorded: duration of use, complications, parental satisfaction, comparison of the costs of the EarWell™ system with the costs of otoplasty.

Results A total of 32 ears in 19 newborns were treated with the EarWell™ system. Of these, 63% were male and 37% were female. The fitting began between the 1st and 3rd week of life. The average duration of use was between 12 and 28 days. The complication rate was 1.3%. The clinical results were assessed by the investigators as follows: 23% very satisfied, 35% satisfactory, 30% satisfactory, 3% less satisfactory and 9% not at all satisfactory. 95% of the parents would agree to another use of the EarWell™ system. The cost of the EarWell™ system is €660 and for an otoplasty under general anesthesia it is €2826.

Conclusion Ear deformities can be treated very well within the first six weeks of life using the EarWell™ system. Surgery at an older age and social stress can thus be prevented at an early stage. Another advantage is the low cost compared to otoplasty.

Abstract

Background Congenital ear deformities occur in 5% of all newborns. Molding of the ear is possible during the first six weeks of life because of the maternal hormones which are still circulating in the newborns. For several years we have been using the EarWell™ Correction System, which allows us to correct ear deformities within the first weeks of life.

Patients and Methods This prospective study included 19 newborns. The following ear deformities were treated: cup ear, lop ear, steel ear, helical rim abnormalities, antihelical rim abnormalities. The results of the EarWell™ system were reevaluated two years after the procedure. Two independent examiners evaluated the clinical results on the basis of preand postprocedural images. In addition, the following parameters were evaluated: time of application, complications, satisfaction of parents, cost comparison between the EarWell™ system and otoplasty.

Results In all, 32 ears were treated with the EarWell™ system. 63% were male and 37% female. The system was placed in the first three weeks of life. The average treatment time was 12-28 days. The rate of complications was 1.3%. The clinical results were rated as follows: 23% very satisfactory, 35% fully satisfactory, 30% satisfactory, 3% less satisfactory and 9% not satisfactory. 95% of the parents would use the EarWell™ system again. The costs of the EarWell™ system are EUR 660, those of otoplasty EUR 2826.

Conclusion Ear deformities are easily treated with the EarWell™ system during the first weeks of life. It reduces the need for surgical correction at a later age and prevents children from further stress. Another advantage is the low costs compared with the costs of otoplasty.

Keywords

Ear Malformations - Earwell™ System - Newborns

Key words

ear deformities - Earwell™ System - newborn

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