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Aesthetic Plastic Surgery

Stahl Syndrome in Clinical Practice

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Abstract. Stahl syndrome, known also as "Satiro's ear", is a deformation of the auricle described in the nineteeth century by Stahl who included it in a classification of various deformities of ear:
-Helix transversus spleniformis
-Crus anthelicis trifurcata
-Crus superior turgidum
At present Stahl's ear is included in the second group for the abnonnal cartilaginous pleat which extends from the Crus anthelix to the edge of elix deforming in this way the regular curvature of ear and amplifying the triangular hole. It's frequently associated to other aesthetic deformities of the auricle itself and above all among oriental peoples; the pathogenetic origin of this deformation has to be connected with an hereditary, familial character confirmed by the diffusion of this deformation among the members of the same family, reaching its highest expression in identical twins where its manifestation is about at seventy-five percent. Besides the hereditary-familial hypothesis, we find a second hypothesis according to which the cartilaginous deformity is connected with an altered growth of an instrinsic muscle of ear, the transverse muscle [1;4]. The solution of the problem is surgical, through the Chongcet technique [9], modified and applied in the post-operating using particular remedies.

Key words: Long-lasting results—Plastic splint—Tangential resection

Stahl syndrome, known also as "Satyr's ear," is a deformity of the auricle described in the 19th century by Stahl, who included it in a classification of various ear deformities including helix transversus spleniformis, crus antihelicis trifurcate, and crus superior turgidum. Currently, Stahl's ear is included in the second classification because of the abnormal cartilaginous pleat, which extends from the crus antihelix to the edge of the helix, deforming the regular curvature of the ear and amplifying the triangular hole.

Stahl syndrome frequently is associated with other aesthetic deformities of the auricle itself. It is more common among oriental people. The pathogenetic origin of this deformity is hereditary and familial, as confirmed by its diffusion of the condition among members of the same family, with its most frequent expression in identical twins, among whom it manifests with an incidence of about 75%.

Besides the hereditary familial hypothesis, a second hypothesis suggests that the cartilaginous deformity is connected with the altered growth of an intrinsic ear muscle: the transverse muscle [1,4]. The condition can be corrected surgically using the Chongchet technique [9], which we modified and used in conjunction with new splinting material.

Materials and Methods

Nine patients (4 males and 5 females) with Stahl syndrome were enrolled in this study. The patients ranged in age from 16 to 50 years.

The anomaly involved the right ear in two cases, the left ear in five cases, and both ears in the two remaining cases. All nine patients were treated surgically with the Chongchet technique [2,3], which we modified to obtain excellent results.

The Chongchet technique requires access behind the ear, with the patient under local anesthesia. The area of interest on the anterior side of the auricle is

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marked using a dermographic pen [5]. and the drawing is transferred to the posterior region by passing Keith's straight needles from the anterior side of the pavilion to the posterior side, in conformity with the Chongchet technique [1,3,4].

After identifying the area, we proceed to the tangential resection of the third crus, whose anomalous position is the cause of the aesthetic defect. We place the graft in physiologic solution and prepare the area to give the ear an acceptable and good aspect. We set up the graft, which has been prepared and carefully treated previously. We provide a careful hemostasis and suturing of the skin in the zone behind the ear [6, 8].

After the operation, the ear is immobilized using a splint of polyvinylsiloxane, which has been used successfully to correct loop ears and other slight deformities of the auricle. The splint we use comprises two separate ingredients of polyvinylsiloxane: one is the base, and the other is the catalyst. These elements, mixed in the right proportions (1:1), give rise to the final product, which remains moldable for about 4 to 5 min. It then becomes more solid, retaining an excellent memory for the form, but remaining sufficiently elastic.

The splint is applied and modeled directly on the patient's ear, offering the surgeon the ability to give the ear the desired shape. A standard elastic ski bandage is applied as a covering to be kept on for 3 or 4 days. The bandage must be kept in place for 24 h during the first 4 days after the operation. After the first checkup, it is applied only at night for 7 days. The tangential resection of only the third crus is the basis of the modification to the classic technique. Its purpose is to avoid the incision and resection of the cartilaginous wedge used with the classic technique, and to reconstruct the normal anatomy of the auricle with an autologous graft, thereby improving the general aesthetics of the pavilion. The pavilion's dimensions will not be reduced, and the scars will be less evident.

The splint we use offers considerable advantages over the classic bandages with gauzes because it can be removed easily. It does not create adhesions among tissues, nor does it provoke cases of decubitus, thanks to its retained elasticity.

Results

The results of our modified Chongchet technique are considered satisfactory and lasting. At the first checkup, only 3 days after the operation, we observed excellent aesthetic improvement and a reduction in complications, such as the formation of hematomas, and the absence of decubitus phenomena, thanks to the elasticity and softness of the splint over time. During the following visits, after 10 days, we observed better compliance by patients because the splint was required only at night. We also noted excellent aesthetic results, with no visible scars and maintenance of very good pavilion cartilage form.

Finally, the patient can resume his or her activities 3 days after the operation without any further medications. The benefits are numerous and associated with both the surgical technique and the use of the new splinting material. In short the benefits are

- A surgical technique of easy application
- Partial and localized anesthesia
- Anatomic reconstruction with an autologous graft
- First surgery checkup possible after only 3 days
- Reduced complications (hematomas, adhesions to the splints)
- Increased patient compliance
- Better aesthetic results, thanks to the scars behind the ear
- Long-lasting results.

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