Autogenous cartilage autobank in rhinology

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WE have not at the present time adequate alloplastic material at hand. (Perr, 1955, Fomon and Bell, 1970).
With the disadvantages of an additional operation and its complications, autogenous human cartilage is generally the first choice in nasal surgery. Ham (1958), Session (1972) very frequently uses implants from the posterior area of the septal cartilage. Tresley (1972) shows great experience preferring autogenous cartilage in implants and Cottle obviously.
There are three main arguments against the use of rib cartilage in rhinosurgery.

I. Graft distortion (avoided by the principle of balanced cross section).
II. Poor resistance to infection (avoided by antibiotics and diet).
III. Partial graft resorption (this has not been solved yet).

There are four aspects which are of decisive importance for the rate of resorption Helmich, (1972).

I. Method of preservation.
II. Implant bed.
III. Source of implant.
IV. Surgical technique.

It is important to know the rate of cellular survival and possibility of division in base as how the intercellular substance preserves its biochemical integrity and protects the cells - against the antibody action.
Experimental investigation in dog: Reyes Cunningham (1968) "It is possible to fragment and remodel cartilage to be used as an autocratic transplant, utilizing fragmental costal cartilages packed into acrylic-patterns placed in the peritoneal cavity for its consolidation and remodeling. This material in a second stage may be used to repair experimental joint damage with successful results in tolerance and functional rehabilitation.
In acute nasal trauma Drumheller (1971) emphasized rescuing the loose bone and cartilage in a sterile gause or implanting it in the same wound because: "This is the best implant material available to the patient."

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Bruck (1973) reviewing 5,000 personal cases, in mild-deformities, in his secondary operations used the remaining strips of septal cartilage. G. Joseph (1972) stated: "removed septal strips may or may not need replacement". Thus, in many cases, we have material left.

We began to preserve in autobanks all the material not used in reconstruction of olympic athletes noses, thinking in the high rate of future traumatic exposure.

The non-professional sportsmen do not escape this high incidence of exposure. In a Swedish city of high cultural level, with almost 450,000 inhabitants, in only two years there were 1000 facial fractures (Laudin, 1973).

Now, we do autobank procedures in all patients in which there is some material available at the end of nasal surgery because, reviewing statistics, there is a high incidence of failures or complications at short or long term which requires new surgery, may be with implants. We have to wait for problems at long term including the best of our cases.

Hinderer lists five most frequent long term complications: Saddling of the cartilaginous vault, retraction of the columella, downward pull of scar tissue, widening of the base and flattening of the nasal tip.

TECHNIQUE

The instruments we need are the following:

1. Bard Parker Knife No. 15; 2. Knapp Scissors; 3. Cottle cartilage guide; 4. Bayonet forceps and 5. 4-0 suture.

Through a 5 mm. incision on the left side close to the pubic hair, we dissect a one inch length bed in fatty tissue, pushing and opening the blunt scissors, helped by the Cottle cartilage guide, we introduce the leftover cartilage pieces with the bayonet forceps, and one or two loose gut sutures. (Fig. 1). If the scar becomes keloidal it is hidden by the "bikini".

In our files we have controlled autobanks for more than one year with their material always ready for use.

The possession of an autobank gives a feeling of security both to the surgeon and to the patient. Because in this moment the patient is accepting "with pleasure" the near or remote possibility of touch-up surgery.

We propose to perform autogenous cartilage autobanking procedures routinely when possible; this will be the best implant material available to the patient.

EXAMPLES

1. Autobank utilized at the sixth post-operative day:

In the patient with wide nose, retracted Columella, and poor bone pyramid, while doing the dressing on the sixth post-operative day, sometimes there is anguish, in the moment of uncovering the nose. In this case we got an apparent improvement, thinning, elevating and increasing the dorsum, but in this close-up (real

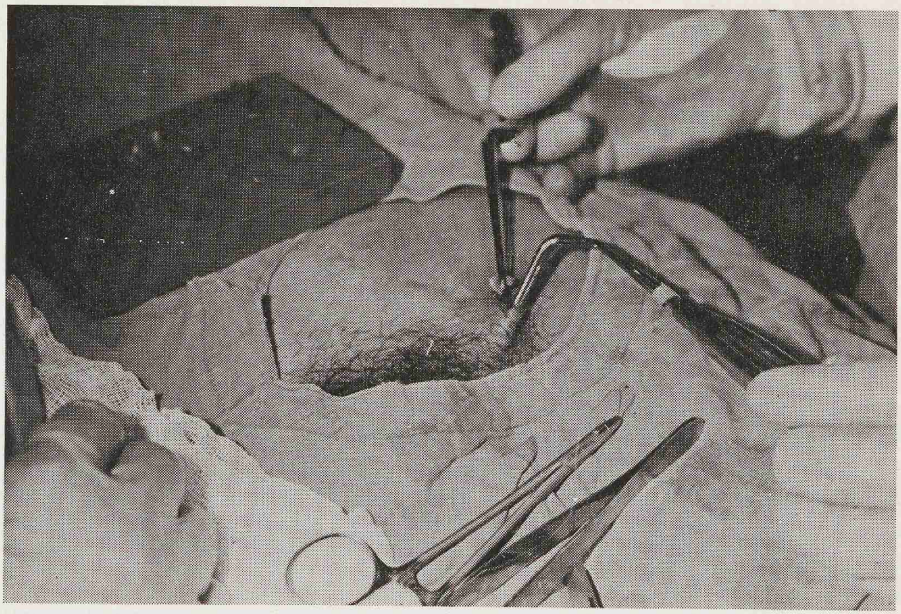

Fig. 1 Introduction of remaining autogenous septum cartilage in a little skin bag left to the pubis.

profile) we see a mistake in the moment of the rebuilt dorsum which is now apparent because the edema has disappeared. Don't worry, if you have an autobank just dig up the size piece you need and put it in without incision through the intercartilaginous wound which has not fully healed. It is so easy like this and the "sixth day anguish" of the surgeon disappears.

2. Autobank utilized after four months in another example:

At the 20th postoperative day, the big hump has disappeared by push-down and double lateral osteotomies, but four months later the hump reappears. It is no problem as she has an autobank. Remove some pieces, of cartilage modify it by camouflage, and the good results come back again.

3. After a year the autobank is utilized for a study:

The immediate "push down" post-operative result was satisfactory. One year later there appears a very little curve without problems so we take out the autobank for an anatomopathology study and demonstration. With a small incision we obtain two pieces; it is a very splendid material for an anatomopathology study. We reintroduce one piece and suture.
On microscopic study (Fig. 2) we observed the same amount of living cartilage cells as in fresh septal cartilage.

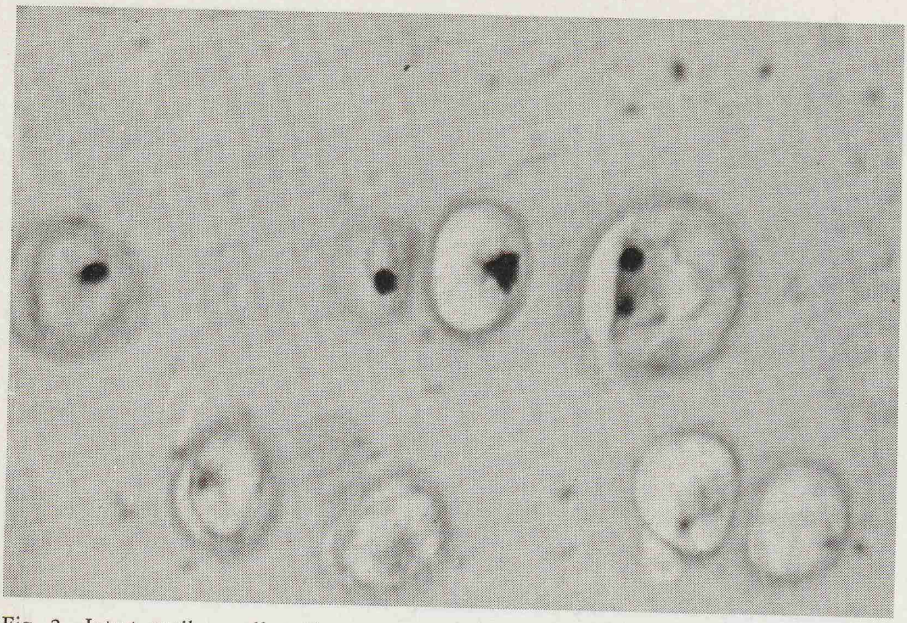

Fig. 2 Intact cartilage cells with normal nucleï.

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