CONCHO-ANTROPEXY (C.A.P.) IN VASOMOTOR RHINITIS AND CHRONIC NASAL OBSTRUCTION

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Synopsis:

An operation is presented which is based on new principles and is devised to relieve cases of chronic nasal obstruction. It entails no sacrifice of the functioning nasal mucous membrane which is of such vital importance. It depends on dislocating the inferieur concha into the antrum.

Introduction:

In the present study, covering the past five years, 100 patients were operated upon. All had suffered from long standing chronic nasal obstruction usually of a non-infective nature and without underlying anatomic deformity. All of these patients had been in the habit of using nasal drops, several times daily. Furthermore, at the time they were seen, they had been subjected to all sorts of medical and surgical treatments in the form of antihistaminics vaccines corticosteroids or intranasal operations.

Indications:

The cases chosen were confined to one of 3 groups:

1. Chronic vasomotor rhinitis of non-atopic type, i.e. non-specific V.M.R.
2. Medicamentous chronic hyperplastic rhinitis i.e. patients who have been abusing intra-nasal medications for a long time.
3. Cases which had been operated upon previously with no relief of - or with aggravation - the patients symptoms. It is a common observation that some cases react adversely to surgery and that a normal mucous membrane may be transformed in a few months following submucous resection of the septum (sometimes a pernicious practice) to a swollen type which gradually increases until the nasal passages become completely blocked.
4. The roentgenogram in those addicted to intranasal medication invariably shows complete opacity of the nasal fossae and concentric thickening of the mucosa of the antra.

Operation:

1. An incision is made at the line of attachment of the inferior concha; it includes the mucous membrane and few millimeters of bone.

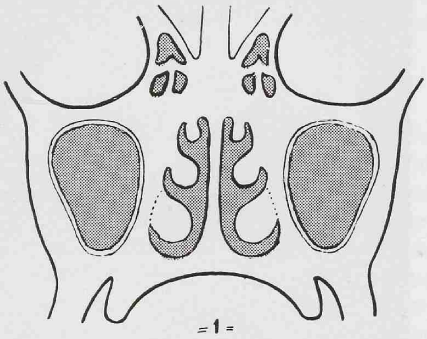

Figure 1. Incision at concho-antral junction.

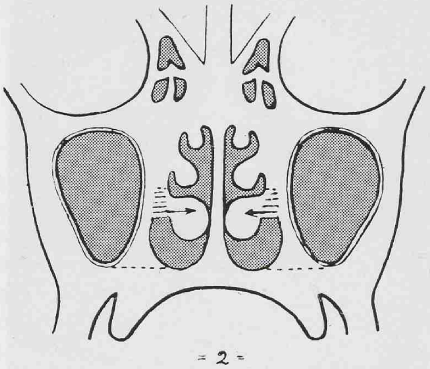

Figure 2. Inferior conchæ infractured medially.

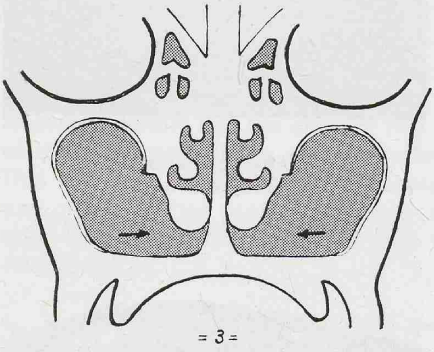

Figure 3. Wall between antrum and nasal cavity removed.

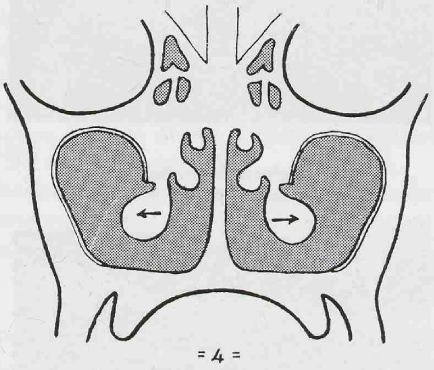

Figure 4. Inferior conchæ dislocated laterally into the antrum.

2. The anterior end of inferior turbinate bone is amputated by a punch forceps. After dissicting it off its mucous membrane which is reflected back.
3. The inferior concha is infractured cephalically by inserting a spatula into the inferior meatus.
4. The lateral wall of the inferior meatus is totally removed leaving no shelf either inferiorly or anteriorly; a combination of gouge, hammer and bone nibbling forceps is used.
5. The inside of the antrum can be easily inspected through the wide opening created; polypi or diseased mucosa can easily be removed.
6. The inferior concha is then dislocated or infractured laterally into the antrum. This step is suprisingly easy; it instantaneously and dramatically produces a free airway.
7. A pack is inserted between the inferior concha and the nasal septum to maintain the former in its new position.

Precautions:

One should not be tempted to over-lateralize the inferior concha; it is noticed that relief of the oedema is progressive following this operation

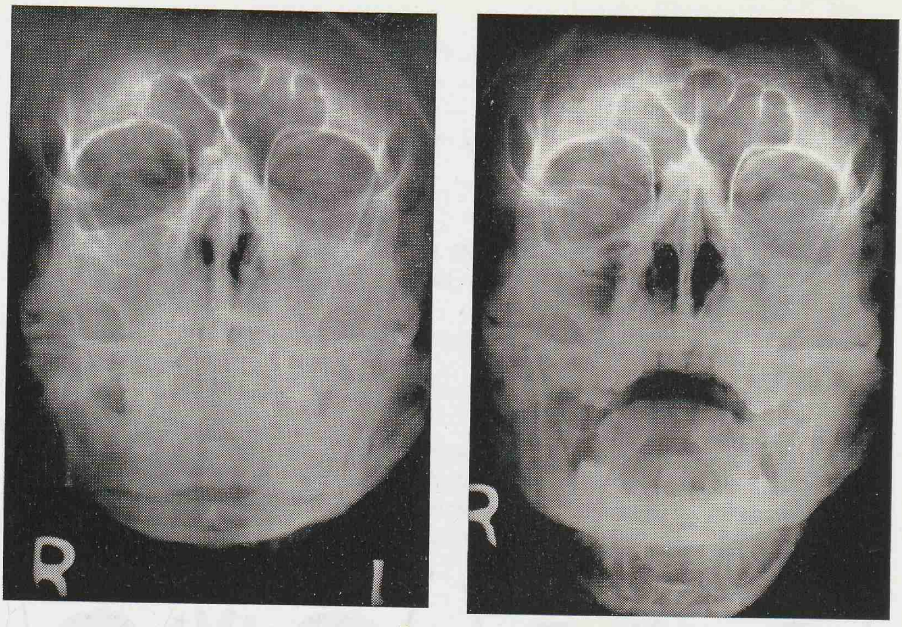

Figure 5.

Before operation
Note opacity of nasal fossae.

After operation
Nasal fossae are patent.

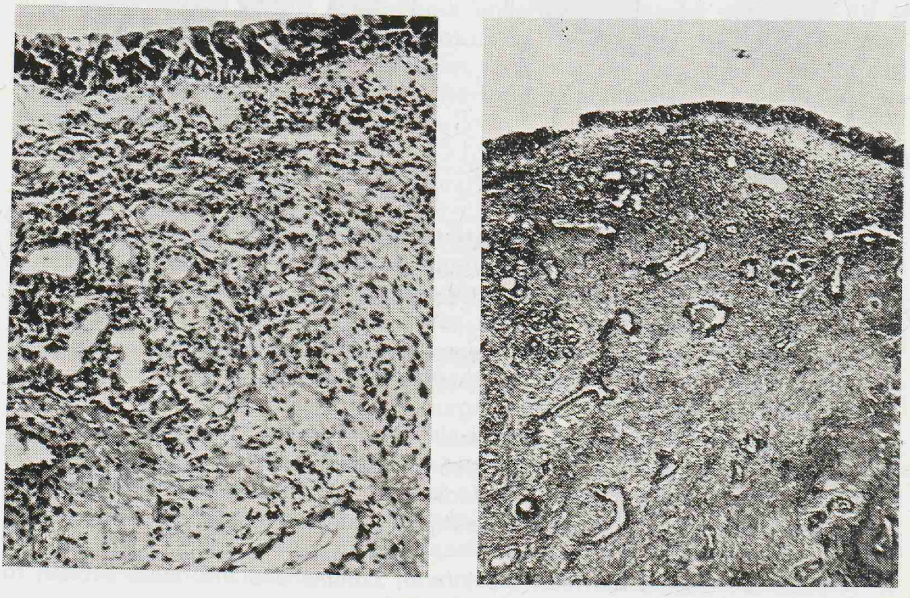

Figure 6.

Before Operation
The specimen is covered with pseudo-stratified columnar epithelium. The sub-epithelial tissue, particularly the superficial zone is markedly oedematous to the extent of the formation of micro-pseudocysts. There is a sparse plasma cells and lymphocytic infiltration. No eosinophilic infiltrate. The mucous glands are active and some are distended with their secretion.

After Operation
The oedema had disappeared. The mucous glands are more close to the epithelial covering. The sperificial layer of the sub-epithelial tissue is the seat of recent fibrosis and dense lymphocytic and plasma cell infiltration. Deeper down the inflamatory cells decrease and the fibrous tissue is more dense.

and may lead — if overdone — to extreme patency of the nasal passages which may cause atrophic rhinitis and pharyngitis sicca.

Post-operative steps:

1. The nasal pack is changed daily for a few days, thus allowing the inferior concha to be anchored firmly in its new position.
2. Any adherent flakes have to be removed, preferably by suction. If these flakes are left in situ they may predispose to atrophic rhinitis.
3. The antrum is then washed daily through a nasal catheter.
4. Nasal lavage with an alkaline lotion is recommended.
5. A radiogram after the operation shows a clear nasal fossa and increase of the opacity of the corresponding antrum.

Pathology:

The instantaneous and progressive relief is evidently produced by breaking the viscious circle of oedema, pressure, and further oedema, caused by the "rebound effect" of intranasal medication.
In removing the wall of the inferior meatus, the inferior concha is allowed to swell laterally into the antrum; this causes release of the constricting action of the bony bounderies of the choana on its posterior end.
This has been verified by microscopic findings. When the amputated anterior end of the inferior concha is examined and when few weeks later an adjacent area was taken and compared with the former, the following findings were met with:

a. The 1st specimen taken before the operation is found to be covered with pseudostratified columnar epithelium. The subepithelial tissue, particularly the superficial zone, is markedly oedematous to the extent of formation of micro-pseudocysts. There are few plasma cells but well marked lymphocytic infiltration. No eosinophilic infiltrate was found. The mucous glands are active and some are distended with their secretion.

b. In the specimen taken after operation, the oedema disappeared. The mucous glands are closer to the epithelial surface. The superficial layer of the subepithelial tissue is the seat of recent fibrosis and dense lymphocytic and plasma cell infiltration. Deeper down the inflammatory cells decrease and the fibrous tissue is more dense.

Advantages:

1. Dramatic relief of chronic obstinate nasal obstruction without sacrificing the fundamental nasal mucosa.
2. Adequate exposure of the inside of the antrum and any pathological lesion inside it. This dispenses with the procedures of Caldwell and of Luc.
3. It produces widening of the middle meatus and allows better drainage of the ethmoid cells and the frontal sinuses.

Summary:

1. The inferior concha is infractured medially.
2. The inferior meatal wall is widely removed.
3. The inside of the antrum is inspected; any diseased tissue is dealt with through this wide opening.
4. The inferior concha is swung laterally into the antrum.
5. Nasal obstruction instantaneously disappears and the mucosa progressively shrinks.

Acknowledgement:

I am indeed very grateful to A. Elwi, Professor of Pathology for his valuable help in diligently examining the various biopsies taken before and after the operation.

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