

Chronic rhinosinusitis: medical treatment

A. E. Kortekangas, Turku, Finland

THE term rhinosinusitis implies inflammation of both the nasal chambers and the nasal accessory sinuses. The inflammation of the nasal accessory sinuses is traditionally considered to be the maintaining cause of the nasal symptoms, the focus of the inflammation. Accordingly, in this survey main interest is focused upon the medical treatment of chronic sinusitis, especially in the maxillary sinuses. The adjective chronic is often difficult to define and suggests only a vague idea of a prolonged duration of symptoms. As I am inclined to include in the term chronic sinusitis at least significant, though not necessarily irreversible, changes in the mucosa, simple continuous inflammation in the sinus without any trials of treatment does not mean chronic sinusitis. The proposal is made here to apply the diagnosis of chronic (rhino)sinusitis only to cases with a failure of therapeutic trial(s) — of any type — of at least one month's observation.

Since it appears that no studies applying a double-blind technique are available concerning the medical treatment of chronic sinusitis, in particular of maxillary sinusitis, the subject is approached from the viewpoint of the expected value of certain drugs in this condition. The following medicines will be considered: antibacterial, anti-inflammatory and antiallergic drugs, sympathomimetics, enzymes and vaccines.

Antibacterial drugs

Clinical experience is not in agreement with the theoretical expectation of the value of antibiotics in maxillary sinusitis. Bacterial infection with respiratory pathogens very often coincides with acute or subacute sinusitis. Still the value of antibacterial therapy seems to be very largely insignificant compared, for instance, with the effect of irrigations of the sinuses in these cases (Axelsson et al., 1971, Kortekangas, 1963 and 1965, Rantanen and Arvilommi, 1972). If the above definition of chronic sinusitis, implying one failure of treatment already, most probably a course of antibiotics, is accepted, it is even more unlikely that a new antibacterial medication will bring about a cure. This agrees very well with the experience of the speaker.

There is, however, one very important indication for administration of a bacteriologically controlled antibacterial therapy. This indication is to minimize an inflammatory reaction in connection with surgical procedures or certain medications.

The bacteriological control includes consideration of the bacterial flora in the sinus (secretions) and its antibiogram, the penetration of different antibacterial drugs into the mucosa, and the tolerance of the patient. As too little detailed knowledge is available on many points, the subjective preferences of the physician may be allowed to contribute to the decision. Generally bactericidal antibiotics are preferred to the bacteriostatic ones.

To my knowledge, no significant effect of the local application of antibacterial drugs in the sinuses has been shown in critical studies.

Anti-inflammatory drugs

Corticosteroids are the most potent drugs with an anti-inflammatory effect. The use of corticosteroids in chronic sinusitis may be indicated in carefully selected cases, e.g. in cases with previous unsuccessful surgery. I have observed some such cases in which probably as a part of the adrenocortical hypofunction the disabling nasal symptoms can be effectively controlled by a small dose of corticosteroids for periods of severe symptoms.

Pyrazolon derivatives have hardly any effect on chronic sinusitis. The effect reported by Axelsson et al. (1971) may be ascribed to an increased penetration of antibiotics when combined with pyrazolon derivatives (Legler and Bracharz, 1968).

Antiallergic drugs

Corticosteroids and their use in chronic (rhino)sinusitis has already been discussed.

Antihistamines have a very wide use in rhinology, even as purely symptomatic alleviators in chronic (rhino)sinusitis. I do not think that anyone relies on their effect on sinus inflammation, but certain patients are able to effectively control their symptoms without too much trouble from side effects when a suitable preparation or perhaps a combination preparation containing several drugs is found.

The new disodium cromoglycate seems to be a promising contribution in control of the vasomotor symptoms occasionally found in conjunction with chronic sinusitis (Holopainen et al., 1971).

Sympathomimetics

Local application of sympathomimetics is not recommended in chronic rhinitis of any etiological type, mainly to avoid the risk of medicamentous rhinitis. In my opinion, this risk is not too high if the dosage is restricted to a minimum. Only few of the nose-drop addicts who have been using these drops continuously or intermittently for long periods actually contract a medicamentous rhinitis. As for these unfortunate patients the drops may be the only key to a tolerable life, I may comply with a request for a nose-drop prescription, though I never recommend it. Instead, my suggestion would be systemic use of sympathomimetics like metaoxedrin or phenylpropanolamin which are usually available in combination preparations with antihistamines or analgetics. The systemic use of sympathomi-

metics does not cause a risk of medicamentous rhinitis but may be associated with irritable side-effects.

Enzymes

There are occasional reports of the use of enzymes in chronic sinusitis, even in papers that are not commercial (e.g. Fujisaki and Taniguchi, 1967). Personally I have not seen any significant effect of the use of enzymes, streptococcal varidase, or chymotrypsin, either locally in the maxillary sinuses or systematically in chronic sinusitis.

Vaccines

Vaccination is the most effective of the available methods in the management of viral diseases. Viruses are considered etiologically very significant in acute respiratory infections, but their role in maintaining a chronic sinusitis is not proved, according to present knowledge. There is accordingly to reason to apply viral vaccines against chronic sinusitis.

Bacterial vaccines, autogenous or mixed anti-catarrhal, have been recommended. On personal experience, I am critical of the value of these vaccines in chronic sinusitis. If the symptoms were a result of reaction against bacterial antigen, this type of hyposensitisation would be theoretically justified. I am sure that I am not alone in having experienced disappointments in clinical trials using either anti-catarrhal mixed bacterial vaccines or non-specific protein vaccines in chronic sinusitis or vasomotor rhinitis without maxillary sinusitis.

I would like to close with two comments:

1. The term or diagnosis chronic rhinosinusitis should imply a failure of at least one therapeutic trial, which most probably has been medical treatment. So further medical therapy can very seldom be expected to be curative in its effect.
2. There are several types of drugs available for symptomatic relief. The type and the drug for symptomatic alleviation should be chosen individually for each patient until a definitive therapeutic trial is instituted. As a rule, supporting medical therapy should be combined with this trial.

REFERENCES

1. Axelsson, A., Chidekel, N., Grebelius, N., Jensen, C. and Särne, S., 1971: Treatment of acute maxillary sinusitis. *Acta oto-laryng.*, 72, 148.
2. Frisk, R. and Tunevall, G., 1972: Effect of Oxyphenbutazone on concentrations of penicillin in serum. Data to be published, personal report.
3. Fujisaki, S. and Taniguchi, T., 1967: A protease therapy for chronic sinusitis. *Int. Rhinol.*, 5, 37.
4. Holopainen, E., Backman, A. and Salo, O. P., 1971: Effect of disodiumcromoglycate on seasonal allergic rhinitis. *Lancet*, 1, 55.
5. Kortekangas, A. E., 1963: Antibiotics in the treatment of maxillary sinusitis. *Acta oto-laryng.*, Suppl. 188, 379.
6. Kortekangas, A. E., 1965: Does antibacterial therapy effect the recovery from maxillary sinusitis? *Int. Rhinol.* 3, 93.

7. Legler, F. and Bracharz, H., 1968: Zur Frage des Einflusses der Oxyphenbutazon-Therapie auf den Penicillin-Blutspiegel bei Menschen. Med. Welt, 19, 1253.
8. Rantanen, T. and Arvilommi, H., 1972: Data to be published, personal report.

A. E. Kortekangas, M.D.,
Aninkaistenkatu 3 C,
20110 Turku 11,
Finland.