CHRONIC SINUSITUS IN CHILDREN.*

By Ronald Macbeth (Oxford).

The members of the Otolaryngological Club feel very honoured that they have been invited to this meeting of the Section of Otolaryngology of the Royal Academy of Medicine in Ireland, and I am deeply sensible of the responsibility which falls upon me for contributing to this discussion. I am conscious of the imperfection of this contribution, which of necessity takes the form of a series of opinions rather than an account of any particularly well-collated scientific work. I have had the opportunity of dealing with a large number of children suffering from chronic sinusitis, but I have not yet collated all of the case records. I think it would be helpful to define what I understand by the title of this discussion, by saying that I am confining my remarks to a condition of infection of the paranasal sinuses, present more or less continuously for at least one year in the age group of 0-12 years.

Natural History.

It would seem that there is an inherited tendency towards chronic sinusitis in children, and I think we are all familiar with "catarrhal" families. In this connection it is probably important to realise that there may be a parent or other relative in the family who has a chronic nasal discharge and who may very likely be a broadcasting station, as it were, of infection. So, where we strike a family group all complaining of the same kind of nasal symptoms, it behoves us to seek for the source of infection among the relatives.

Any age may be subject to this disease, and indeed infection of the sinuses may be present almost from birth (i.e., the child picks it up from its mother or nurse in the first few days of life), but more commonly the condition starts at school age when the child is exposed to cross-infections of frequency and magnitude for the first time. The infection may commence as a complication of one of the specific fevers especially whooping cough; and I am in the habit of regarding this last disease as being of particularly lethal importance. Country dwellers seem just about as prone to this type of infection as townies, but children of the poorer grades are unquestionably more susceptible. Poverty, hunger and dirt, with consequent low vitamin intake, are predisposing factors, but children of the wealthier classes are by no means exempt. Climatic conditions play some part in determining chronic sinusitis, but it is very difficult to analyse just exactly how this works. The kind of climatic conditions which we experience in Great Britain and in Ireland seem to predispose to nasal infection, and it is interesting to note that a Swiss who has recently been working in my department found sinusitis in children very much commoner in Oxford than in his own country. I imagine that most of us are familiar with the improvement which follows sending a child suffering from sinusitis to the East or South coasts of England, but one realises also that the rhinologists

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who live in those parts seem to make an adequate livelihood by reason of the prevalence of such infections there too. On the other hand, it was a quite common experience in the Midlands of England during the war to find that evacuees coming from the supposedly better climate of the South-East coast or London were actually better from a nasal point of view than they had been in their own part of the country.

Symptomatology.

There is usually a history of repeated snuffy colds with a mucoid or purulent nasal discharge. A characteristic remark by the parents is that "he is never free of a cold"; and on inquiry one usually discovers that the previous removal of tonsils and adenoids failed to produce the hoped-for improvement. In addition there is often a history of recurrent otitis media. Very commonly indeed one finds the co-existence of a productive cough with the signs of bronchitis or bronchiectasis. This co-existence of bronchiectasis is of paramount importance, and it is imperative to recognise and treat both conditions at the earliest possible moment. The onset of upper and lower respiratory infection may in fact be simultaneous, and may be traceable in the history to one acute illness in the past, but I think that more often the child's mother will say that the cough and lower respiratory symptoms were subsequent in time to the upper respiratory infection. It is easy to understand how a concomitant upper and lower respiratory infection may occur, because of the continuity of the mucous membrane from postnasal space to terminal bronchioles, but there is also a good deal of evidence to suggest that the lower respiratory infection comes from muco-pus finding its own way down between the cords into the tracheo-bronchial tree during the child's sleep. Bronchography may be carried out after instilling lipiodol nasally, and experiments have been made on a number of occasions whereby lipiodol instilled into the nasal cavities of children during sleep can be detected afterwards in the bronchi. Similarly, lipoid pneumonia may follow the instillation of oily nasal drops. It is therefore suggested that thick muco-pus may do the same thing, and by blocking areas of the tracheo-bronchial tree produce multiple small atelectases which by organisation then produce areas of broncho-pneumonic consolidation. The bronchi dilate after this. It is important, however, for us to realise that an early appearance of bronchiectasis in a bronchogram may represent a reversible change and that it is not until the bronchi themselves lose their elasticity and become fibrous that the bronchiectasis becomes established as a chronic condition.

It would not be unreasonable to suppose that a chronic respiratory infection with bronchiectasis may lead to an infection of the nasal sinuses. Skiagrams of the sinuses taken some hours after the instillation of lipiodol into the bronchi might show the lipiodol in the paranasal cavities, and experiments are proceeding along these lines. I believe this is less likely to occur in the unoperated cases than in the patient who has had surgery undertaken in the nasal sinuses, and therefore in whom the ciliated epithelium and the normal ostia have been partially destroyed. This has a practical bearing when one comes to consider the treatment of children suffering from upper and lower respiratory infection, because it is the practice of paediatricians and thoracic surgeons to treat bronchiectasis by putting the children upon a tipping