Societies' Proceedings

ROYAL SOCIETY OF MEDICINE—SECTION OF LARYNGOLOGY

December 2nd, 1932

President—MR. MUSGRAVE WOODMAN

Vasomotor Affections of the Nose and their relation to Bronchial Asthma

The opening papers read by Prof. VAN LEEUWEN, Mr. WALTER HOWARTH and Dr. A. F. WRIGHT are published in this issue of the *Journal of Laryngology and Otology*, Vol. XLVIII. No. 4. pp. 238-56.

DISCUSSION.

G. W. BRAY said that the age-incidence of the vasomotor affections of the nose lay mostly between the ages of 15 and 40. Two females were affected to every male.

Two factors were of the utmost importance, namely occupation and climate. Bakers developed symptoms from the inhalation of cereal flours which were harmless when taken by mouth. Housewives were affected by house dust or moulds, by face, talcum, or shampoo powders which contained orris root, or in places where orris root was used to purify air, as in picture shows or theatres, by animal emanations as from pets or feather pillows, or from insect powders (pyrethrum). Chemists and doctors were often affected by the powder of ipecacuanha or sodium salicylate. Industrial workers—especially in the rubber, shoe, or chemical works—were frequent sufferers, whilst others associated symptoms with strong odours or smoke. A cold changeable climate was more often a cause of symptoms than a warm uniform one, and trouble was more often experienced in winter than in summer, and especially on going from a warm room into a cold one. Such symptoms probably resulted from the exaggeration of a normal physiological reflex. A function of the extensive surface of the nasal mucosa was to warm and moisten the inspired air. In a warm atmosphere very little work was thrown upon it, but a sudden change to cold called for a rapid hyperactivity of the warming and moistening apparatus, and so to the production of coryzal symptoms. With the consequent blockage of the nasal airway mouth-breathing was necessitated, and a vicious circle was established until warm air is breathed again. In other cases it is suggested that the mechanism may be a pathological one, an allergic reaction to cold, where the passage of cold air over the nasal mucosa leads to the local production of histamine with the consequent swelling and œdema. He (Dr. Bray) had previously shown a case in which coryzal symptoms were

https://doi.org/10.1017/S0022215100038627 Published online by Cambridge University Press

produced by the exposure of the skin to cold, and relieved by a course of injections of histamine.[1]

Foods, on their ingestion, often led to nasal symptoms, the commonest being wheat, egg, milk, chocolate, potato, and beans in that order of frequency. Bacteria might be responsible for reactions in other rarer cases, but without surgical intervention infection was the exception rather than the rule. Vaccines rarely led to any relief. Endocrine disturbances were occasional concomitant factors, especially hypothyroidism, in which, possibly, the lowered metabolism led to a greater susceptibility to cold. Drugs might produce allergic nasal symptoms, and probably the commonest was aspirin which was usually associated with polyposis.

These affections might be related to asthma in three ways. First, nasal abnormalities might press upon the "asthmagenic area" of the nose and so produce a reflex bronchospasm. Secondly, the same allergen that caused the coryza might affect the lungs and lead to both nasal and pulmonary symptoms. But in the allergic subject multiple manifestations and multiple sensitisations were the rule, so that one allergen might predispose to coryzal symptoms and another to pulmonary symptoms. Also allergic subjects were more prone to allergic reactions when exposed to epidemic infections such as the common cold or influenza, not because of a sensitivity to the infecting agent, but because of a lowered resistance of the membranes to the absorption of allergens and a lowered resistance of the individual to such reactions. Finally, nasal infections, generally as a sequence to surgical interference, might form the ground for a bacterial sensitisation and so produce asthmatic symptoms, but such a happening was rare as the sole cause of asthma. If a nasal smear from a case was stained as for a differential blood-count, a 10 per cent to 90 per cent eosinophilia was diagnostic of allergic coryza, whilst the presence of abundant non-eosinophilic polymorphonuclear cells was diagnostic of infection.

Palliative treatment included such intranasal applications as the inhalation of pure carbonic acid gas, the use of novocain, ephedrine and adrenaline sprays and ointments, or silver nitrate, nasal cauterisation, or zinc ionisation of hypersensitive areas. Little relief was afforded by nasal operations in the absence of infection, and the removal of polypi was commonly followed by their recurrence and an increase in the severity of the symptoms. The curative treatment consisted in the active removal of sensitisation factors as determined by skin tests, or their passive avoidance by a change of climate or occupation. If the causes could not be avoided or removed, specific desensitisation offered the best chance of cure,

[1] *Proceedings*, 1931, xxv., 131 (Sect. Child. Dis., 3); *Journ. Allergy*, 1931-2, iii., 367.

https://doi.org/10.1017/S0022215100038627 Published online by Cambridge University Press

especially if the allergens were of the inhalant type. In other cases autoserotherapy often proved to be of value.

SIR JAMES DUNDAS-GRANT said he thought that the value of nasal treatment should be recognised, in view of the frequency of nasal pathological conditions in asthma, improvement after their removal, recrudescence after a return of the nasal trouble, even the disappearance of sensitiveness to special irritants after the operation, and, above all, the experiments of Dixon, Brodie and Ransom, which showed that when certain areas at the back of the septum were stimulated, a contraction of the bronchioles was observed. (See *Brit. Med. Journ.*, 1931, (ii.), 1060.) If the allergic element was looked upon as the explosive factor, the nasal condition should be regarded as the detonator, and if one could not get rid of the explosive, one should remove the detonator.

L. GRAHAM BROWN said that he would confine his remarks to indications for surgical treatment, based upon his experience. The conclusion drawn at a discussion on paroxysmal rhinorrhœa by this Section in 1925 still held. This was that surgical interference was indicated when one could hope for relief of nasal symptoms. He advocated radical removal of the cause of the obstruction, such as nasal polypi, a hypertrophied mucosa, especially moriform hypertrophy of the turbinates, and gross changes in the antra. In cases of polypi of the ethmoid region there was often an accompanying change in the mucosa of the antra. Latterly his attention had been more closely drawn to this by radiography, which should be insisted on in the diagnosis of these cases. The Caldwell-Luc operation was indicated, as by that alone one could know the condition of the mucosa inside the antrum. If necessary, a double antral operation should be carried out.

With regard to the results of operations in cases of bronchial asthma, his experience was that very few benefited in their allergic condition, i.e. the asthma persisted, but the patients derived much comfort from the removal of the nasal obstruction and the provision of an open airway. He deprecated mild interference in the form of cauterisation or the partial removal of polypi. Removal of polypi by the radical method of ethmoidectomy led to good results.

G. H. ORIEL: "It is important to realise that sinusitis may be secondary to the allergic state. If we consider the various manifestations of allergy in the different systems we find that they have one feature in common, namely, œdema. In urticaria and eczema there is swelling of the skin. In spasmodic rhinorrhœa and hay fever there is œdema of the nasal mucous membrane. In asthma it is very common to find a similar condition. This tendency to œdema of the nasal mucous membrane is likely to interfere with the natural drainage of the sinuses by temporarily blocking the various

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orifices. We must all have seen cases of allergic eczema without asthma, in which nasal symptoms have been present. This being so, it is not surprising to find so many cases of nasal infection amongst the asthmatics. An œdematous mucous membrane forms a favourable soil for bacterial invasion. I believe this to be the explanation of the frequency with which asthma is complicated by bronchitis, and the older the patient, the more likely is infection to complicate the underlying allergic state.

If the allergic tendency is left untreated, and the affected sinuses are treated, the original cause of the trouble remains, and the sinuses are liable to become reinfected."

MR. THACKER NEVILLE: "The removal of nasal polypi in the absence of pus is useless for the cure of asthma, but the removal of polypi in the presence of pus—that is to say, in the presence of a sinusitis—has had in my hands a dramatic effect in curing long-standing asthma. Polypi in the absence of pus must be removed, but they will recur unless the allergic condition present be discovered.

For vasomotor rhinitis I have used sodium iodide injections in the form of Rhinostop, parathyroid and Kalzana, but I am inclined to think that one of the most useful treatments is a no-salt diet and limited fluid intake."

CASES

Two cases of Asthma with Recovery after Nasal Treatment.—SIR JAMES DUNDAS-GRANT.

CASE I—This patient, first seen in June, 1931, had suffered from asthma several times a year all her life and, since the Spring of 1931, nearly all the time. There were sensitive spots on the nasal septum; there was no obvious nasal discharge but muco-pus was visible in the left choana. The left antrum was found to be dull on trans-illumination and fœtid pus was washed out of it by Lichtwitz's method; this was repeated on several occasions, with temporary relief; a month later the left antrum was opened through the nose and a cyst of the right middle turbinate removed. The fœtor and pus from the antrum gradually disappeared. In October, 1931, the patient reported that her general health had much improved; the cyanosis had completely gone and, although the asthma had returned in a milder form for about three weeks in August and September, 1931, she had been free from it ever since; and up to the present she has continued so. The intense mental depression from which she suffered before treatment has completely disappeared.

CASE II—This man, first seen in July, 1926, had for many years suffered from asthma, which had almost unfitted him for work; nasal obstruction from polypi and enlarged middle turbinates. The polypi were removed, and it was then found that the left middle turbinate pressed upon the septum; there was still a little asthma,

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but when the middle turbinate was fractured and forced outwards away from the septum the asthma disappeared. With the exception of occasional slight wheeziness in the morning, the patient is quite free from respiratory trouble and can carry on his work with ease.

C. A. FRANCIS said that one point in connection with prognosis which was of great help was the reaction of the patient to aspirin. Aspirin-sensitive patients made bad subjects for operations; he had found this to be particularly the case when removing polypi, if the patients also had a low blood-pressure. If the blood-pressure was normal, or slightly raised, the taking of aspirin or not did not matter to the same extent.

Multiple Cysts of the Jaws with an Empyema of the Left Maxillary Antrum.—CHARLES BENEY.

Female, aged 49. First seen February, 1932, after extraction of all the teeth and opening of a cyst in the right mandible. Skiagram showed multiple cysts of both jaws and some opacity of the left antrum.

At operation the left maxillary cyst was found to communicate with a chronic empyema of the antrum. Treatment consisted of removal of the anterior walls of these cysts and packing with "bipp". Left intranasal antrotomy performed.

One cyst in the left mandible and a small oro-maxillary fistula remain untreated. Suggestions for closure of this fistula are invited.

Bilateral Cysts of the Maxilla with Empyema of the Right Maxillary Antrum.—CHARLES BENEY.

A.F., aged 40. First seen October, 1932. History of swelling and discomfort on both sides of upper jaw since extraction of teeth. Right maxilla shows a large swelling encroaching on the palate and nasal fossa, with a small area of fluctuation.

On the left side a similar but smaller cyst is present. Skiagram shows right antrum to be slightly less translucent than the left. Antrum lavage positive.

H. V. FORSTER raised the question of the intranasal operative treatment of dental cysts. If a dental cyst was large enough to encroach on the inferior meatus, it should be opened and drained through the meatus. He sometimes heard of large dental cysts treated without regard to their proximity to the inferior meatus. In the case of cysts of dental, or non-dental origin which approached the floor of the vestibule and pyriform opening, an aperture could be made intranasally at operation. In one case shown to-day there was a large cavity in the upper jaw communicating with the mouth, and he wondered whether this cyst had been near enough to the nose for an opening to have been made intranasally.

Impaired Movement of Vocal Cord without Malignancy.—SOMERVILLE HASTINGS.

Male, aged 51, a school teacher, seen March 24th, 1932, on account of thickness of voice of three months' duration, and pain on

https://doi.org/10.1017/S0022215100038627 Published online by Cambridge University Press

swallowing at intervals for one month. He stated that for some years he had suffered from nasal catarrh and snored at night.

On examination.—The left vocal cord was nodular in appearance, with a large sessile nodule near its base, and a small pedunculated one close to the apex. The movements of the left cord were impaired. The Wassermann reaction was negative. No tubercle bacilli were found in the sputum and an examination of the chest also gave negative results. As complete rest of the voice for a month produced no changes except loss of pain on swallowing, on April 27th, 1932, under cocaine anæsthesia, the two larger nodules with several smaller ones were removed from the left cord by the direct method. They were reported to be composed of chronic inflammatory tissue with numerous plasma cells [microscopic sections shown]. The fixation of the left cord increased as the result of the operation, then slowly got less, but had only completely disappeared in July. The voice steadily improved and the patient returned to his occupation as teacher in September. When last seen (November 1st, 1932) there were numerous small white patches on the left cord which otherwise appeared to be almost normal.

DOUGLAS HARMER said that he regarded this condition as chronic sepsis, though he was not sure where the sepsis originated ; probably it was in the tonsils. At present there was no loss of movement of the vocal cords. In certain cases of septic laryngitis there might be temporary loss of movement of the cords. It was a question whether temporary loss of movement was caused simply by congestion and swelling, or was due in some cases to the arytenoid joint being temporarily inflamed and painful, or to nerve involvement.

ABSTRACTS

EAR

The treatment of Recurrent Suppurative Otitis Media. JOSEPH SCHNIERER. (*Wiener Klin. Wochenschrift*, Nr. 10, Jahr 45.)

Intranasal instillation of " Pyocyanase " by means of a dropper has been used successfully in a number of cases to cure and to prevent recurrent otitis secondary to tubal or nasopharyngeal infection. It has been found especially useful in subacute cases in children, which had refused to yield to the conventional remedies after the removal of tonsils and adenoids, and which tended to chronicity. The drops are instilled into the anterior nares and thence into the pharynx three times a day whilst the child is in the recumbent position.

J. B. HORGAN.

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