ATROPHIC RHINITIS is a distressingly persistent disease of uncertain aetiology. The pathological changes consist of progressive atrophy of the mucous membrane of the nose and the underlying nasal conchae. The mucosa exudes a thick viscid secretion which dries up rapidly and forms crusts which emit the horrible odour characteristic of the disease. Both sides of the nose are usually affected.

The disease is incurable and progressive. Treatment consists essentially of efforts to keep the nose clean; saline irrigations and oily nasal sprays are helpful (Jackson and Jackson, 1959). Operative procedures have now been mostly abandoned (Guthrie, 1952).

The author had consistently observed nasal congestion and increased secretions from the nose following stellate ganglion block and suggested that it could be of use in the treatment of atrophic rhinitis. Two patients with advanced atrophic rhinitis were treated with repeated stellate ganglion blocks. The results have been gratifying. So far as the author is aware, stellate ganglion block has not been tried before, nor has it been repeated with success in cases of atrophic rhinitis.

CASE REPORTS

CASE 1. N. S., male (24 years), sought medical advice on September 14, 1959, with complaints of foul smell from the nose, and a feeling of dryness and crusts in the nostrils of 15 years duration. He also complained of persistent headache and nasal obstruction. Anterior rhinoscopy revealed atrophic turbinates, covered with crusts, and foul foetor from the nose. Associated fronto-maxillary sinusitis was present. He was treated for about 8 months with removal of crusts, boroglycerine nasal drops, antrum puncture, ephedrine nasal drops, menthol with paraffin for intranasal use, saline irrigations, and glucose 25 per cent in glycerine for local use in the nose. Relief was not obtained by any of the procedures. Repeated stellate ganglion blocks were considered to be worthy of trial. The first stellate ganglion block was carried out on the right side on May 24, 1960, using 10 ml of 2 per cent lignocaine. This was repeated twice a week on the right side with 8 to 10 ml of 2 per cent lignocaine or procaine. The technique used for the stellate ganglion block was as follows:

The patient was positioned supine on the table or trolley with a pillow under the shoulders and the head, which was turned to the opposite side. After aseptic precautions, an intradermal weal was raised half an inch above the clavicle on the lateral border of the sternal head of the sternomastoid muscle. A long needle with stylet was inserted through this weal directly backwards till it made contact with the anterior surface of the body of the 7th cervical vertebra. The needle was withdrawn 0.5 cm after which 8 to 10 ml of 2 per cent lignocaine or procaine were injected after a negative aspiration test for cerebrospinal fluid and blood. The skin puncture was sealed with tincture benzoin co. Typical Homer’s syndrome appeared within 1 to 3 minutes of the injection with an illusion of enophthalmos, narrowing of the palpebral fissure, constriction of the pupil, anhidrosis and Guttmann’s sign of nasal congestion. The patient was observed for about half an hour for any reaction to the drug or complication of the stellate block and was later sent home.

The left stellate ganglion was not blocked in order that the left nostril could serve as a control to detect any change in the right nasal mucosa. After six such blocks the mucosa of the right nostril appeared more pink than that of the left. Secretions in the right naris were less viscous and greater in quantity. Thereafter left stellate block was also undertaken alternately with the right side. The patient felt much better after ten such blocks. The foul smell was significantly less, and nasal discharge more plentiful and thinner. The mucosa was pink and more vascular. Crust formation was less and present only on the left side on July 19. Stellate ganglion block was then repeated alternately on the right and left side at weekly intervals. The patient felt greatly relieved after twenty injections. Foul smell was slight and secretions more plentiful. Rhinoscopy revealed a wet and pink mucosa without crustation on August 18. Thereafter blocks were repeated at fortnightly intervals. Relief was maintained. After October 18, blocks are being carried out at monthly intervals on either side. Relief is being maintained and rhinoscopy shows a more or less healthy mucosa. The bad smell is no longer present, secretions are copious and crusts are absent. The block has now been repeated about fifty times.

No complications, excepting occasional transient hoarseness of voice for about 1 to 2 hours after the
injection, have been observed. This is possibly due to the spread of the local analgesic to involve the recurrent laryngeal nerve.

**Case 2.** U.K., female (17 years), complained of foul smell from the nose and a feeling of dryness of 5 years duration. Examination revealed the usual changes of atrophic rhinitis. Dry crusts and foul foetor were present. Treatment by nasal hygiene, glycerine with 25 per cent glucose, and menthol with paraffin for intranasal use was of no avail.

She was referred to the author for repeated stellate ganglion blocks on July 17, 1960. The blocks were given on the right side twice a week. After five such injections, the mucosa of the right nostril appeared more pink. Secretions were less viscous. Thereafter left stellate ganglion block was performed alternately with the right. After eight such injections, the patient felt greatly relieved. Foul smell was considerably less and thin secretions were present. She did not come for repetition of the blocks for about two months during which she felt relieved. After two months, the foul smell started reappearing. Six more stellate ganglion blocks were given alternately on each side. She was again relieved of foul foetor and secretions were more plentiful. She has unfortunately not attended for the past four months.

The technique of the block was the same as in case 1. No complications attributable to the injection were observed.

**Discussion**

Treatment of atrophic rhinitis is essentially palliative. It consists in the main of nasal hygiene, for none of the so-called cures of this affection have stood the test of time (Guthrie, 1952). Associated maxillary sinusitis is treated by puncture of the antrum, lavage, or by drainage. The nose is cleansed often enough to prevent crust formation.

Vibratory massage has been advocated for wasted turbinals. This can be done by cotton-tipped probes dipped in Mandl's paint or balsam of Peru. It was suggested that these methods stimulate the glands and the atrophied turbinals (Thomson and Negus, 1948).

The use of pure glycerine with the addition of 25 per cent liquid glucose (Jackson and Jackson, 1959; Thomson and Negus, 1948) applied to every part of the nasal mucosa four or five times a day to correct foetor and crust formation has been advocated. This application favours the growth of glycophilic bacteria and creates an environment in which the activities of Perez bacilli are inhibited (Benians and Hayton, 1919). Applications of scarlet red (5 per cent ointment) once or twice a week have also been recommended. The use of oestrogenic hormones has been advocated (Henner and Busby, 1943; Blaisdell, 1938; Safer, 1942; Greene, 1943; Eagle, Baker and Hambley, 1939). These substances have also been applied locally with reported benefit (Hall and Macleod, 1942) but they may produce ovarian changes in young females (Guthrie, 1952) and sexual disturbances in the males.

A spray of neostigmine methylsulphate has also been used for the relief of odour (Henner and Busby, 1943). Submucous injection of paraffin, first proposed by Lake and Brindel, cannot be generally advised (Thomson and Negus, 1948).

Surgical measures for reducing the calibre of the nasal chambers, implants of bone, Lautenslager's and Halle's operations and sympathectomy are all of considerable difficulty and of doubtful value (Kopp, 1940). The extent of sympathectomy, whether bilateral or unilateral, whether it was effective and whether the effect was maintained have, however, not been stated.

The prognosis and results of treatment by various methods can be assessed by the statement that "it is not in our power to cure ozaena (atrophic rhinitis)" (Guthrie, 1952).

All the usual methods aimed at removal of crusts—nasal hygiene, treatment of maxillary sinusitis by antrum puncture, ephedrine drops, saline irrigations, and glucose 25 per cent in glycerine locally—were of no benefit in both these cases. The improvement of symptoms and signs by stellate ganglion blocks has been significant. Repetition of blocks is essential to achieve continued vasodilatation. It is suggested that the blocks be given first on one side so that a comparison of changes in the nasal mucous membrane can be made with those in the opposite side. Improvement may come after five to ten such injections. Neither bilateral stellate ganglion block with absolute alcohol nor bilateral cervical sympathectomy is advocated because each is likely to cause permanent bilateral Horner's syndrome. The technique selected for the stellate ganglion block is extremely simple and the treatment has been singularly free from complications.

**Summary**

Two cases of atrophic rhinitis treated successfully with repeated stellate ganglion blocks are presented and discussed.
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REFERENCES


CORRESPONDENCE

ANAESTHETIC EXPERIENCES IN 1,300 MAJOR GERIATRIC OPERATIONS

Sir,—In his introductory remarks (Brit. J. Anaesth. (1961), 33, 354) Dr. David L. Scott seems to be under the impression that Bedford's article (Bedford, 1955) is one of the last important contributions in geriatric anaesthesia occurring in a British journal. May I point out that there are those who believe Bedford's conclusion to be untenable (Debenham and Ward, 1960; Rollason and Hough, 1960; Simpson, 1960)? Age, it is felt, is no barrier to success in surgery and anaesthesia and no contra-indication to hypotensive techniques skilfully administered. Indeed, a significant advance in urology, i.e. the performance of retropubic prostatectomy without resort to an indwelling catheter, has been made possible by the routine use of these techniques in patients who are usually elderly.

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