

and social health which are deeply concerned with all human relationships and problems, and to help restore to health those whose lives have been shattered by disease and by disaster. And what have we to do today in a world where individuals and nations vie with each other for the attainment of personal and national powers? The solution of the immediate problem rests upon the present generation, and nurses, as a great body of professional women living in daily contact with every kind and type of people, have a real part to play. We must do our part to uphold the ideals of altruism, duty and service, to supersede the attitudes of selfishness, distrust and intolerance which appear to pervade the world today.

Nurses necessarily are called where disaster and devastation prevail, but they go to build, not to destroy; their efforts must be constructive, and the spirit of helpfulness should transcend all other motives. They desire the welfare of mankind, a chance to develop their creative genius to its highest capacity.

NASAL SINUSITIS AND ITS TREATMENT

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Nasal sinusitis may be of a purely catarrhal nature, or it may develop through a muco-purulent stage into one of acute suppuration, which, in some cases, ends in chronic suppuration. The disease in which sinusitis most commonly occurs is influenza, but any acute infectious disease may cause it. In any condition complicated by acute rhinitis, catarrh of the mucous lining of the nasal sinuses is common, but in most cases retention of the discharge, which gives rise to the clinical picture of sinusitis, does not occur. The swelling of the mucous membrane at the orifices of the sinuses, which produces the retention, is more liable to occur when the nose is narrow, when polypi are present, when there is a deflected septum, or when the middle turbinate is enlarged.

The organism most frequently present in sinusitis is the streptococcus, but *M. catarrhalis*, the pneumococcus, and *B. influenza* are also common. It has been contended that the common cold is due to pus-forming bacteria activated by a filtrable virus. A natural or acquired immunity may lapse owing to reduced resistance, or chilling, or other factors permitting the bacteria lying in the diseased mucous membrane to become active. As a result a virus is produced and discharged into the nasal cavity, there activating the same type of bacteria which are present in the mucosa but have hitherto lain dormant or been merely saprophytic. Catarrh of the mucosa may also be allergic in origin. In acute catarrhal inflammation the mucous membrane, which is normally very thin, is swollen and infiltrated with fluid; it becomes so greatly thickened that the cavity of the sinus becomes much smaller.

Nasal obstruction and a feeling of fullness in nose and cheek, with pain of a neuralgic nature, are common symptoms. If the frontal and fronto-ethmoidal sinuses are affected, there is tenderness on pressure in the supra-orbital region, especially at the inner angle of the orbit. When the inflammation involves the antrum, the pain and tenderness are more localised in the nasal bone. Pain is referred to the occipital regions when the sphenoidal sinus and posterior ethmoidal cells are chiefly affected. If the condition is not treated, symptoms become more severe, until pressure in the sinus causes evacuation of the sinus, with consequent relief of pain. Mucus, or bloodstained mucus, is discharged from the nose.

For an acute attack the prognosis is good, the case usually resolving completely in from two to four weeks. If there are no general or permanent local causes, there is no particular liability to a further attack. In very severe cases there is often definite damage to the mucosa, leaving a susceptibility to future attacks. If evacuation of the infected sinus does not occur, an abscess may form, which bursts through the bony capsule, leading to an orbital or extra-dural abscess. The diagnosis is usually easy, but inflammation of the buried root of a tooth may be confused with inflammation of the maxillary antrum. In such a case, radiography generally shows a translucent antrum and reveals the root. Alveolar abscess, infected cysts, impacted and unerupted teeth, may have to be differentiated.

For the prevention of this condition it is obvious that any nasal malformations, obstructions, and infected teeth should be dealt with. To prevent the suppurative stage of acute rhinitis, the patient should be put to bed during the infective stage, and a saline purge given; also, aspirin and Dover's powder should be administered. The inhalation of preparations containing menthol, benzoin and eucalyptus is useful. Swelling of the mucous membrane may be reduced by applying cotton wool soaked in 10 per cent. cocaine to the middle meatus.

Ephedrine solutions may also prove comforting. Ashley has had splendid results from the use of packs containing a mixture of colloidal silver and isotonic ephedrine hydrochloride, applied to the parts; he claims that this treatment is twelve times as effective in producing ischæmia, and several times as lasting in effect as other agents. Infra-red and short-wave therapy give marked symptomatic relief.

As a result of the treatment detailed, most cases recover spontaneously, but if, in spite of treatment, retention persists, the antrum should be perforated below the inferior turbinate bone with a trocar and cannula (Lichtwitz), and irrigated through the nasal osteum. Most cases are cured after three or four lavages. Should suppuration still persist, the antrum should be drained into the nose by operation. Persistence of suppuration in spite of all these measures will necessitate an external operation.

The general symptoms are vague and do not usually indicate their origin. They arise from the absorption of toxins from the mucosa of the infected sinus. The patient never feels well. Mental

and physical fatigue readily occur. There may be insomnia and periods of marked physical weakness. Loss of appetite and indigestion may occur from the swallowing of pus, and disorders such as arthritis, neuritis, nephritis and endocarditis may be traced to an infected sinus. This shows the great importance of this somewhat common condition. The chief local signs of chronic suppuration are a unilateral discharge, frontal headache, and nasal obstruction. The character of the discharge varies. It is generally muco-purulent or purulent, but may be mucoid or serous. It may be first noticed when the patient is stooping. The patient may be conscious of foetor, but the smell is as a rule not noticed by others.

The character of the pain varies from a feeling of heaviness, pressure, or fullness to severe agonising pain. Loss of smell is another fairly common symptom. Associated conditions frequently met with are pharyngitis, laryngitis, bronchitis and gastritis.

A thorough examination must be made in every case of chronic sinusitis. The mouth should be inspected for the presence of dead or decayed teeth, or of an alveolar sinus. On examination with a speculum the nose may look quite normal or there may be a streak of pus in the middle meatus. Swelling of the middle turbinate is often seen. If discharge reappears in a given place, after it has been removed by swabbing or suction, this is pathognomonic of sinus disease. In doubtful cases repeated examinations at different times of the day may be necessary. If crusts and secretion are seen in the naso-pharynx (with the post-nasal mirror), these are suggestive of sinus infection. The presence of pus can be definitely proved by exploration and irrigation with a trocar and cannula (Lichtwitz). If, instead of pus, blood only is obtained, a tumour should be suspected.

In comparatively mild cases a favourable outcome may be expected from adequate treatment. In severe cases requiring radical operative procedures, there may be nerve injury, scar formation, and other inconveniences left. In suppuration of dental origin the outlook is better than in that of nasal origin.

In mild cases, or where radical measures are refused, local medical treatment similar to that employed in the acute condition, is employed. The routine use of suction is useful for clearing ostia blocked by secretion; suction may be applied by a water pump, a suction bulb, or an electric suction pump. Nasal irrigation may be used to clear the nasal passages of thick secretion, and for the stimulating effects of the heat. The fluid usually employed is warm normal saline.

Radical treatment includes the various operations on the sinuses themselves; namely, radical antrum operations, partial or complete intra-nasal exenteration of the ethmoids, removal of the anterior wall and floor of the sphenoid, internal or external operations on the frontal, and external ethmoidectomy. Recently short-wave therapy has been used in both acute and chronic sinusitis.

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