Current Practice

RESPIRATORY TRACT DISEASE

Diagnosis and Treatment of Stomatitis and Pharyngitis

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The complaint of sore throat is excessively common in clinical practice and may present considerable difficulty in diagnosis and treatment. It may be tackled most easily if one divides the cases into *acute*, where symptoms have been present for only a few days or less, *subacute*, and *chronic*, where symptoms have been present for some weeks or months. Again, it may be beneficial to divide the acute cases into those which show no membrane on the tonsils or pharyngeal walls, and those which do. This is a quite artificial distinction, but it is helpful in diagnosis.

Acute Red Throat

A sudden malaise associated with fever and soreness of the throat is very common among children and by no means uncommon in adults. The tonsils are swollen, red, and succulent, the posterior pharyngeal wall is likewise reddened, and thin sheets of mucus may cover it. There may also be coryza and a mild conjunctivitis.

Is there sufficient known of the pathology of these frequent infections to allow us to reach a precise diagnosis without recourse to elaborate and time-consuming laboratory procedures? To this the answer is of course "no"; and indeed most of these illnesses are so fleeting in character and carry so benign a prognosis that intensive investigation seems to the practical man a waste of effort and time. But it is pertinent to inquire whether one is being confronted with a bacterial or a viral infection, because on this hinge both the line of treatment and the possibility of further possible extensions of the disease. At the bedside the differentiation is difficult in the extreme.

The incubation of viral disorders is three or four days, considerably longer than the brief two days' incubation of streptococcal tonsillitis. The child under the age of 5 years is more likely to develop a viral than a streptococcal infection.

A knowledge of what infections are prevailing in the neighbourhood may help in forming a tentative diagnosis. During an epidemic of measles one might well be called to see a child before either Koplik's spots or skin rash have made their appearance, but nevertheless one could make a shrewd guess that the watering eyes, the cough, and the sore throat are early signs of that disease.

The exact nature of the virus or bacterium causing the pharyngitis is often a matter for speculation. A bacteriological examination of the red throat may prove singularly unhelpful. There is always a lapse of time before the report comes to hand, and as often as not nothing other than commensals is found. A better laboratory investigation is the white blood count. In a viral infection this may be raised little if at all, whereas a streptococcal or pneumococcal infection will bring about a noticeable increase in the count.

The association of diarrhoea with the red throat suggests an enterovirus, and if in addition there is conjunctivitis an adenovirus may be suspected.

Treatment

The treatment of the acute red throat consists in isolating the patient, as far as the circumstances of the family allow. He should be kept in bed as long as he is pyrexial, and should be encouraged to drink plenty of fluids. Hot mouth-washes and soothing lozenges such as Bradosol (domiphen bromide) may afford some relief. One cannot say the same of penicillin lozenges, which often cause a generalized pharyngeal reaction and an unpleasant soreness of the tongue.

It is difficult to withstand the parental pressure for treatment with antibiotic syrups. The public is now so indoctrinated that they expect antibiotics for practically any infection, and a mother will often express surprise, sometimes amounting to resentment, at the practitioner's refusal or failure to prescribe penicillin for her baby's illness. Explanation takes time and patience, and the doctor often finds that both are short during the stresses of coping with winter epidemics; and the drug is often prescribed more as a means of reassuring the mother than as a scientifically applied remedy.

The administration of oral penicillin to children under the age of 5 for any and every upper respiratory infection is quite irrational. If the infection is viral the treatment has no effect; and even if there is a streptococcal infection the course of the illness is only checked in many cases, and symptoms recur when the drug is stopped. This does not mean that penicillin is the wrong treatment for streptococcal infections: but in practice it is common for an oral preparation to be given in inadequate dosage at infrequent intervals for too short a period of time. Relapses occur and may be repeated so often that it is not uncommon to obtain a history of six or more attacks of sore throat occurring in the short space of eight weeks or so—a syndrome that may be called "Pink Medicine Disease."

Pink Medicine Disease is quite clearly an iatrogenic disease, and, in spite of considerable discussion in medical journals, does not appear to be growing any less common. An extenuating argument is sometimes put forward that at least oral penicillin in these circumstances may serve to prevent the onset of rheumatic disease or nephritis. This may be refuted by stating that these complications are usually to be found in children of school age rather than in children under 5, and furthermore the causative tonsillitis that brings about these complications is usually so slight that it receives no treatment at the time, and indeed the parents may have to rack their memories to recall it.

Indeed, Pink Medicine Disease causes considerable concern to the laryngologist, since the victims are so often sent to him for an opinion on the advisability of tonsillectomy. Only too often he has no resource but to enucleate the tonsils, and he

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does this with a heavy heart because he suspects that the necessity for operation might have been avoided by the earlier employment of more rational therapy.

Undoubtedly penicillin by injection is indicated in the presence of a severe infection not responding to conservative therapy and associated with a raised white count. Increasing oedema of the fauces and enlarging cervical lymph nodes are alike signs of progression of the infection. Furthermore, in children who already suffer from congenital or acquired valvular disease of the heart or from nephritis, throat infections, even relatively slight, require treatment by injections of penicillin.

Broad-spectrum antibiotics are contraindicated in the treatment of sore throat, partly because there is evidence that some of them set up bacterial resistance, and partly because some of them, such as chloramphenicol, may have serious side-effects.

Acute Sore Throat with Exudate

Exudate confined to the mouths of the tonsillar crypts is generally considered to be the product of streptococcal tonsillitis, but pneumococcal and adenoviral infections may both produce follicular or even wider patches of exudate.

In the textbook differentiation between faucial diphtheria and the other bacterial and viral diseases that produce membrane it is usual to describe the onset of diphtheritic tonsillitis as being more insidious, the pyrexial reaction less marked, and the cervical adenitis more one-sided. The spread of the membrane from the tonsil to the adjacent pillar of the fauces, soft palate, and posterior pharyngeal wall is a prominent feature. It should not be forgotten that the disease, modified either by previous immunization or by the empirical exhibition of antibiotics, may assume an atypical form in which membrane may be scanty or absent.

For this reason it should be a standing rule that every membranous tonsillitis, no matter what is the appearance of the membrane, no matter what the clinical course, should be subjected to a bacteriological swab. Any tonsillitis or pharyngitis that assumes an unusual course should suggest the question, "Can this be diphtheria?" The occasional deaths from tardily diagnosed diphtheria are still reported and are probably caused by a failure to consider the possibility of diphtheria being present. One must think of the disease to diagnose it.

The anginose form of glandular fever usually presents in the form of a shaggy membrane covering ulceration of the surface of the tonsils. The true nature of the disease may be revealed by the case history before laboratory confirmation is possible. Characteristically, before the onset of the sore throat there has usually been a period of malaise, associated with headache and some tenderness or swelling of the lymph nodes in the posterior triangle of the neck. If the patient is young and has not previously had his tonsils and adenoids removed the ulceration of the throat will be attended by simultaneous ulceration of the lymphoid tissue in the adenoid mass, so that the patient complains not only of sore throat but also of a profuse purulent discharge from the vault of the nasopharynx. This usually finds its way down the posterior pharyngeal wall in sheets of muco-pus. With the aid of forehead mirror and post-nasal mirror one may demonstrate the typical membrane overlying the adenoid mass. This is an exceedingly valuable physical sign in diagnosis.

One should be wary when membranous tonsillitis not responding to treatment occurs at the same time as nasal discharge. It is extremely unwise to entertain a double diagnosis of tonsillitis and sinusitis. The two diseases do not seem to occur together.

There are two diseases which commonly give rise simultaneously to nasal discharge and sore throat—glandular fever and naso-faucial diphtheria. The discharge in the latter characteristically comes from the anterior nares, which are excoriated and may even show membrane. Further the diphtheritic

discharge is blood-stained sero-purulent matter. In anginose glandular fever there is nasal blockage and discharge, which is mainly post-nasal.

Any ulcerative or membranous disease of the fauces not responding to treatment should always suggest the possibility of acute lymphatic leukaemia. The disease may have an abrupt or even a fulminant onset. The lymph nodes of the axillae, groins, and neck will usually be found enlarged; the spleen will be palpable.

Agranulocytosis is another infrequent cause of ulcerative and destructive pharyngitis.

Bullous eruptions in the pharynx are not uncommon; usually the blisters have ruptured before the practitioner has had the opportunity of examining the throat, and the site has become covered with a yellow patch of exudate lying at the bottom of a shallow excavation. The herpes simplex virus may produce a crop of vesicles, usually on the edges of the lips, but also on the inner surface of the cheeks. The vesicles of chicken-pox may also be found in the mouth and occasion severe discomfort.

Herpangina, caused by the Coxsackie A virus, occurs in minor epidemics; it produces a crop of very small vesicles on the palate and about the fauces. The course of the disease is benign, and the tiny ulcers heal in the course of a few days.

Subacute Infections

The diagnosis in subacute infections may not be so pressing as in acute, but may present as great or greater difficulties.

A complaint of persistent or recurring soreness on one side of the throat may be caused by continued infection of the tonsil. Inspection of the throat may show the one tonsil to be red and swollen, and pressure on it may cause pus to flow from the mouth of the supra-tonsillar fossa. There will also be swelling and tenderness of the lymph node below the angle of the mandible. There is no cure other than tonsillectomy, and if the tonsil is cut across after its removal an encapsulated abscess may be found in its substance. Needless to say, any unilateral swelling and pain of the tonsil should always arouse the suspicion of malignant disease, particularly in the elderly.

An infrequent cause of persistent unilateral tonsillar ulceration is Vincent's angina. This is caused by infection with a spirillum and Vincent's organism, both of which can be found in the gum when dental disease is present, and indeed occasionally in the normal mouth.

The onset of the disease may be febrile, but the general course is subacute. An ulcer with a clean-cut edge forms on the surface of the tonsil and excavates fairly deeply into its substance. The base of the ulcer is a shaggy fawn-coloured membrane. The jugulo-digastric lymph node is always swollen and slightly tender, but the cervical lymphatic field is not extensively involved.

The disease seems to result from lack of hygiene, both general and oral, and from poor diet. It is becoming rare in this country. It is possible that in the past many cases of anginose glandular fever were mistakenly diagnosed as Vincent's angina: for glandular fever is nowadays more frequently recognized, while Vincent's angina seems to be becoming rare. Is it possible that the change in the relative frequency of the two diseases is a reflection of increasing diagnostic acumen?

Secondary syphilis may easily escape diagnosis. The characteristic "snail track ulcers" of the fauces may not be recognized, the only change noted being a raw and beefy pharyngitis that might equally well be the result of over-indulgence in alcohol or tobacco.

Aphthous Ulceration

Subacute aphthous ulceration may occur, and it seems that there are two clinical varieties. The milder takes the shape of narrow painful ulcers, often in the bucco-gingival sulcus,

along the edge of the tongue, and on the buccal mucosa. In the less common and severer form the ulcers are larger, their course is more protracted, and extensive destruction of the tissues may result before final healing. There may be quite considerable areas of ulceration, which may destroy the entire epiglottis or the pillars of the fauces. One case is recalled where the entire posterior pharyngeal wall was slowly destroyed by ulceration, and the patient finally died of a massive secondary haemorrhage from the throat.

Behçet's syndrome, characterized by ulceration of the eye and of the muco-cutaneous junctions of the body, is less common than perusal of textbooks would suggest.

The management of aphthous ulceration, even in its milder forms, is often unrewarding. Most cases will recover eventually, but recurrent crops of ulcers undermine the patient's health and cause great despondency. There is no specific therapy, because the true nature of the disease is still not understood; in some a viral, in others an autoimmune, disease is suspected. In milder cases temporary relief may result from the application of Adcortyl-A in Orabase (triamcinolone in a dental paste) to the surface of the ulcers before meals and on retiring for the night. The more severe cases may respond to systemic cortisone therapy under antibiotic cover; local applications to the extensive areas of ulceration do not seem to afford the patient much relief.

Tuberculous ulceration of the fauces is not often seen today. The shallow ulcer with an undermined edge may occur on the soft palate or posterior pharyngeal wall. Its response to systemic antituberculous therapy is most satisfactory.

Everyone is familiar with the appearance of thrush, and there is little difficulty in making the diagnosis. Mild infestations respond to the local application of gentian violet, but more severely affected cases may need the administration of nystatin.

Chronic Infections

Chronic pharyngitis is very common, especially in the middle-aged and elderly. The patient complains of a dry

irritable throat and of hawking up mucus in the morning. In some, persistent mouth-breathing, particularly during sleep, results in the dry throat; in others, breathing over-heated and vitiated air throughout their working day is responsible. Over-indulgence in tobacco or alcohol is a potent cause. To many of these patients the pharyngeal symptoms would become bearable provided they knew the cause. To many of them the symptom represents a cause for worry, particularly worry about cancer, which a careful examination and a full explanation will dispel.

Soreness of the tongue and palate and cheilitis, a moist exfoliation of the skin in the muco-cutaneous angles of the mouth associated with persistent anaemia, are the hallmarks of the changes of the Paterson-Kelly syndrome, and correction of the anaemia will slowly bring about a cure. It has lately been shown that identical symptoms can occur as a result of infestation with *Candida albicans*. Oral moniliasis occurs in 28% of the population, but its incidence is much higher in those who have been exposed to antibiotic therapy.¹ No true thrush formations are to be seen, the mucosa is raw and red, and scrapings of it reveal the presence of the monilia. In these patients the administration of nystatin will produce quicker relief of the symptoms than is achieved by the administration of iron.

It may sometimes be forgotten that the throat may not only be the portal through which disease enters the body and gives rise to systemic disorders, but also that its inflammation may be the first indication of generalized diseases, such as the exanthemata, poliomyelitis, leukaemia, and many others too numerous to be mentioned. Too narrow an attention to the throat and insufficient attention to both case history and general clinical examination are likely to be the causes of the occasional lapses in diagnosis—which may surely be forgiven the practitioner, particularly in the hurly-burly of work during the winter and early spring.

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ANY QUESTIONS?

We publish below a selection of questions and answers of general interest.

Antibiotics and the Foetus

Q.—Which antibiotics, if any, are apt to harm the foetus when given in early pregnancy?

A.—A number of antimicrobial agents—for example, nitrofurantoin-sodium and lincomycin—currently carry warnings by the manufacturers that their effects on the foetus have not been adequately explored, and they should not be given to pregnant women. So far, direct evidence of deleterious effects on the foetus has been produced for only two groups of antimicrobial agents: sulphonamides and tetracyclines.

Teratogenic activity among antimicrobial agents is doubtful. Carter and Wilson¹ reported a baby with bilateral malformations of the hands after maternal administration of tetracycline. So far as I know no other similar cases have been reported. Tchernoukh and Alexandrov² produced develop-

mental abnormalities in the chick embryo with streptomycin and some other anti-tuberculous agents. The most important effect of tetracyclines on the foetus has been deposition of the drug in bones and teeth and interference with bone-growth.³⁻⁵

Some sulphonamides have been shown to displace plasma-bound bilirubin, with resulting kernicterus.⁶ Long-acting sulphonamides may remain in the circulation of the newborn for several days,^{7 8} and are particularly contraindicated if there is risk of neonatal jaundice.

Further reasons for avoiding the use of tetracyclines during pregnancy is the possibility of serious effects on the mother. Schultz⁹ reported six deaths with fatty degeneration of the liver in women near term who had received large doses of tetracycline intravenously for pyelonephritis, and there have since been several more reports.¹⁰ Azotaemia has been described in several

pregnant women with kidney disease receiving tetracycline,¹¹ and reversible tubular dysfunction has occurred with out-dated and degraded tetracyclines.^{12 13}

The oral trichomonacide metranidazole is excreted in the breast milk and perhaps should not be given to nursing mothers, but there is no evidence of ill-effects on the foetus.¹⁴

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