TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the major medical disorders met with in general practice

CHRONIC BRONCHITIS AND EMPHYSEMA

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A conjoined diagnosis of chronic bronchitis and emphysema is very frequently made in middle-aged and elderly patients suffering from chronic or recurrent winter cough. These associated conditions are, without doubt, common in this country, but this diagnosis should not be accepted without full investigation, since emphysema tends to conceal or to mask other pulmonary lesions, while bronchial signs are common as a feature of conditions as various as tuberculosis, fibrosis of the lungs, bronchiectasis, asthma, nasal sinus infections, cardiac failure, and some of the rarer pulmonary or bronchial infections. Careful examination of the sputum should therefore be carried out in every case, and tuberculosis should always be suspected when the cough persists into the summer months. Radiological examination is also desirable, with the use of lipiodol in some cases, to exclude bronchiectasis, unsuspected tuberculosis, and fibroid conditions consequent on catarrhal or pneumonic attacks earlier in life. Senile tuberculosis, masquerading as chronic bronchitis and unrecognized, is without doubt a serious factor in the spread of tuberculous disease.

Preventive Methods

Chronic bronchitis and emphysema in association constitute one of the best examples of the vicious circle in disease, and it is therefore important to treat any cause of chronic cough effectively as soon as possible, since by the time any severe degree of emphysema develops the most that can be hoped for is the arrest of the process. Examination of the heart, urinary tests, and thorough investigation of the nasal sinuses and the pharynx may reveal abnormalities conducing to cough or favouring bronchial infections. Careful inquiry into the occupation and the habits may give useful indications. Work in dusty, damp, or draughty conditions is to be avoided or modified. Over-smoking may be a notable factor in inducing chronic cough and leading to chronic bronchitis, while overfeeding and alcoholic excess may promote the incidence of catarrhal infections. Special caution is necessary in patients of obese habit and in those with high blood pressure or chronic renal disease.

Vaccines, either autogenous or stock, seem to have a useful prophylactic role, especially in the middle-aged and elderly, but special care should be exercised in the dosage in patients with asthmatic tendencies, as they are often hypersensitive to them. In those who are subject to recurrent bronchial attacks in the winter months it is useful to repeat the ultimate dose found to be effective about once every five or six weeks during the winter and early spring. Oily and liquid paraffin solutions or suspensions of antiseptics and astringents, such as adrenaline, adrephine, or ephedrine, or special preparations like metaphedrin or ephregel, may be useful in cases in which the recurrent infections seem to commence in the nose or pharynx.

Those with chronic bronchitic tendencies should avoid close, overheated, and stuffy rooms, places of entertainment, and railway journeys, especially when in-

fluenza or catarrhal infections are rife. Older patients are well advised to remain indoors in the evening and in windy and inclement weather. This may involve long periods within doors, but whenever possible they should go out for walks, and when they are confined indoors the rooms should be well ventilated and not overheated. A fire in the bedroom at night, banked at bedtime with briquettes or with moistened slack in paper bags, to keep an even temperature of 60° to 65° F., is a valuable precaution, particularly for elderly or aged patients. In foggy or damp weather a frame covered with book muslin may be fitted into a partially opened window to allow ventilation and keep out the soot and damp. Younger patients with catarrhal tendencies may find it helpful to take their holiday in the winter and go to the South Coast or for a cruise to warmer latitudes. Patients with catarrhal or bronchitic tendencies should avoid living on clay soil, in damp river valleys, or in marshy districts. High altitudes are generally unsuitable for those with marked emphysema, owing to the rarefaction of the air and the reduced oxygen tension, which tend to produce dyspnoea and distress.

Occupation is often a matter of great importance. Dusty trades, work in overheated rooms, or outdoor occupations involving frequent exposure may be dangerous to those with bronchitic or catarrhal tendencies, and the practitioner may have to advise a change of occupation or the necessity for an alteration in the conditions of work.

Treatment

The manifestations of chronic bronchitis are varied, and since the time of Laennec attempts have been made to separate various types chiefly on the basis of differences in the character of the expectoration—such as dry catarrh, bronchorrhoea serosa, chronic suppurative bronchitis, and chronic fibrinous bronchitis. In the main, however, the symptoms are those of cough, expectoration, dyspnoea of increasing severity, cyanosis, and more or less disturbance of sleep. The indications for treatment are therefore practically the same in all varieties.

General Management

The general ordering of the patient's mode of life is of great importance, and is most often a matter for compromise, since financial, economic, and family circumstances may render the ideal unattainable. In elderly bronchitics living in unfavourable conditions such as those mentioned above, a change to a more suitable climate and surroundings should be advised—for example, to some of the South Coast resorts, including those of the Isle of Wight and the Channel Islands, especially those with shelter from winds and with a more liberal allowance of sunshine. The North Coast of Wales, and even some of the East Coast resorts, may be suitable for patients of more robust constitution, who prefer bracing situations. Wintering abroad is possible as a rule only for those in comfortable circumstances. The French and Italian Riviera resorts and the Mediterranean islands have long enjoyed a reputation in this regard, but patients going there should be warned of the risks of being out of doors after sundown, owing to the sudden cooling of the air and the cold winds from the mountains. They should also bear in mind the opportunities for fresh infection

from the overheated hotels and places of entertainment, and even from the trains. The Atlantic islands—Madeira, Grand Canary, Teneriffe, and the Azores—all enjoy an equable climate and a liberal allowance of sunshine, but they are, for various reasons, less popular than in times before the war. A voyage to the West Indies or to the Cape has many attractions, and a stay in these parts may enable the patient to escape the English winter and so avoid catarrhal attacks altogether, a very desirable object in cases of advancing emphysema. Egypt, North Africa, Florida, and California are all suitable places. In most instances, however, the patient cannot afford to carry out such recommendations, and the practitioner has to content himself with advising the patient to stay indoors in foggy, damp, and windy weather, to avoid unfavourable conditions as far as possible, and to carry out every possible precaution against chill, exposure, and infection.

Whenever any acute attack or any exacerbation of the bronchitis occurs the patient should be treated as for acute bronchitis. On the other hand, chronic bronchitis without fever need not be kept indoors when the weather is favourable: indeed, it is advantageous for them to go out for gentle exercise, thereby promoting evacuation of the bronchial exudate and improving the pulmonary circulation.

What to Wear

The question of clothing is often discussed. The elderly bronchitic of a previous generation was frequently swathed in medicated wools, coloured flannels, and extra vests and shirts, in the hope of preventing chill. It is now recognized that the sweating thereby induced favours rather than avoids catarrhal spread. The clothing worn indoors should be as light as is consistent with conservation of the body heat. Woollen underwear is preferred by many, but various cellular materials, made of wool or linen, or of mixtures of these with silk or cotton, are available, and it should be remembered that two light cellular garments are more efficient than a heavy one of closely woven texture. The pullover is a convenient extra garment in colder weather, or for wear out of doors, under a light overcoat for walking or a heavier one for driving in a motor car.

What to Eat

Dietetic considerations are of considerable importance in these patients. In general, a plain and easily digestible diet is to be recommended, since it must be borne in mind that chronic cough, with its resultant emphysema, throws an increasing strain on the right heart, and that flatulent distension may lead to embarrassed breathing and distress. Some increase in the fats in the winter months is usually advised. Cod-liver oil and its modern substitute, halibut-liver oil, have a value by virtue of their richness in vitamins. In the obese the fats and carbohydrates should be reduced, and an attempt made to reduce weight or to avoid gain, though halibut-liver oil may be permitted. In those with asthmatic tendencies the chief meal should be taken at midday, and the evening meal should be very light and digestible. When cardiac failure supervenes a lacto-farinaceous diet may be necessary for a time. In bronchitis with gout, chronic renal disease, or with high blood pressure the appropriate diet should be strictly adhered to. Constipation is harmful, and must be guarded against.

Medicinal Treatment

The chief indications for treatment are to promote the expectoration of the bronchial exudate, to allay and prevent useless cough, and to treat special symptoms where necessary. At the same time the best treatment is prevention, and as little drug treatment as possible should

be employed, since nearly all expectorants are gastric irritants and may disturb digestion or even lead to nausea and vomiting. Perhaps the commonest mixture of expectorants for these cases is that of ipecacuanha and ammonia, a form of which appears in nearly every hospital pharmacopoeia.

R Ammon. carb. gr. iv
Tinct. ipecac. m x
Aq. camphorae ad 3 j

Ammonium chloride is sometimes given in place of, or in addition to, ammonium carbonate. Iodides are undoubtedly of value in cases where the expectoration is scanty, viscid, or tenacious. A favourite mixture is:

R Pot. iod. gr. iij
Pot. bicarb. gr. x
Ammon. carb. gr. iij-v
Syr. tolu 3 j
Aq. chlorof. ad 3 ss

Ex aqua, t.d.s., p.c.

To this mixture may be added tinct. stramonii m v-xv, or equivalent doses of tinct. belladonae or tinct. lobeliae aeth. if there is any degree of bronchial spasm or so-called bronchial asthma. In elderly anaemic patients the addition of a mild iron preparation to an iodide mixture may be valuable—for example:

R Pot. iod. gr. iij
Pot. bicarb. gr. xv
Ferri et ammon. cit. gr. x-xv
Aq. pimentae ad 3 j
t.d.s., p.c.

Infusion of senega and camphor water are sometimes used as excipients for expectorant mixtures, but both of them are sickly and unpalatable. In cases of profuse expectoration, such as the form called "bronchorrhoea serosa," turpentine, terebine, and balsams of Peru and tolu may be tried. A typical prescription may be given, as:

R Terebene m xv (or olei terebinth. m v)
Balsam of Peru m x (or syr. tolu 3 j)
Mucilage q.s.
Aq. or mist. amygdalae ad 3 j

Creosote may be given in perles of 3 minims or in the form of proprietary preparations, such as sirop. Famel or pulmo. Baily, in drachm doses. The well-known "hot-water mixture" of the Brompton Hospital is very useful to promote expectoration on rising in the morning, and to "clear the tubes" before retiring to bed. It should be taken in an equal quantity of hot water.

R Sodii bicarb. gr. x
Sodii chlorid. gr. iij
Spirit. chlorof. m v
Aq. anisi ad 3 j

For a dry, useless, irritating cough, lozenges such as the troch. glycyrrhizae, troch. ipecac. cum morph., troch. terperoin, the glycerin, or black currant lozenges may be tried.

Inhalations are of doubtful value, but a choice may be made of mixtures of eucalyptus, terebene, oil of pine, and creosote, with or without spirits of chloroform, and used either sprinkled on lint or in a Yeo respirator. Moist or steam inhalations of friars' balsam are sometimes comforting in dry catarrhal conditions, but should not be employed if the patient is going out of doors. Disturbed sleep or even insomnia is a common symptom, especially in exacerbations of the bronchitis or in superadded acute attacks. Any simple sedative mixture may be prescribed, or such preparations as the linctus diamorphinae cum ipecac. (B.P.C.), linctus diamorphinae et scillae (B.P.C.), syrup cocillana, or citronin in drachm doses. If these fail it may be necessary to resort to hypnotic drugs, such as sedormid, allonal, medinal, heroin, or morphine, but the routine use of these is to be avoided,

and if they are given care should be taken in the morning to promote the expectoration of the accumulated secretion of the night hours.

When cardiac failure threatens or supervenes, digitalis or other cardiac tonics must be employed in suitable doses. If marked cyanosis and orthopnoea occur from right-sided engorgement due to cardiac failure or to severe intercurrent bronchitis, venesection to the extent of 10 to 15 ounces may give relief and render the effect of the cardiac tonics more helpful.

Physical and Spa Treatments

Various forms of mechanical treatment have been suggested to compensate for the diminished elasticity of the lungs. Breathing exercises may be of real value to younger subjects and in those with bronchial asthma. The compressed-air chamber sometimes gives considerable relief, and even permanent benefit, in similar cases. It should not be advocated for patients of plethoric or obese habit, in those with high blood pressure, or those in whom haemoptysis has occurred. It is only available at

certain institutions and at some special spas. The pressure is raised in the course of an hour two-thirds of an atmosphere, or about 10 lb. extra per square inch. The pressure is kept at this level for about an hour, and decompression should be slow and take a further half-hour.

Breathing into rarefied air, and mechanical compression of the thorax during expiration, though theoretically of interest, are now rarely employed. Certain spas have developed special treatments for these patients, such as Cauterets and Eaux Bonnes in the Pyrenees, La Bourboule and Mont Dore in the Puy-de-Dôme, Ems, Reichenhall, and Baden-Baden in Germany. At most of these the local waters are inhaled in finely divided form ("pulverization"), and at some of them, notably Reichenhall and Ems, compressed-air chambers are in use. Treatment at these places certainly benefits selected patients who can afford to go, and it is to be hoped that treatment on similar lines may eventually be started at some of the spas in this country with suitable climate and natural waters.

TO MELBOURNE AND BACK

PART I.—ACROSS THE U.S.A.

On the afternoon of Saturday, July 27th, the motor vessel *Georgic*, of the Cunard White Star fleet, will move from her moorings at Southampton and bear down the Solent for New York. Aboard her will be a large number of members of the British Medical Association on the first stage of the world tour which has been arranged for them by the Association in conjunction with Pickfords Travel Service, and which has as its main objective the 103rd Annual Meeting in Melbourne, 16,000 miles away.

Almost simultaneously with the departure of the *Georgic* the Canadian Pacific Liner *Duchess of Richmond* will leave Liverpool for Montreal, carrying another section of the party. This section will include those who desire to "travel British" as far as possible, and those who have already seen the United States and prefer to take the Canadian route to the Pacific as an alternative. The two groups will unite on the Pacific coast at San Francisco, and the whole party will make the remainder of the world tour together.

THE ATLANTIC VOYAGE

First we will trace the programme of the United States party. To begin with there is the *Georgic*, a beautiful ship of 27,000 tons, capable of a speed of 18 knots, which enables her to make a comfortable Atlantic crossing in seven days. With her fine swimming pool, spacious decks, modern gymnasium, and a cuisine for which her line is famous, the medical voyagers can look forward to a good beginning to their holiday at a pleasant time of year. On the morning of Sunday, August 4th, they will see the world-famous skyline of New York, and a few hours later will be engulfed in the astonishing life of New York City.

NEW YORK AND WASHINGTON

The little island of Manhattan, bought by Peter Minuet from the Indians in 1646 for 24 dollars, is now the hub of modern New York. Here gigantic buildings in stone and steel rear their heads skywards, while in them and through them pulsates a life of restless, driving human energy that almost takes away the breath.

After establishing their quarters at one or other of the magnificent hotels of New York, the visitors will be free for the rest of the day, and short enough it will seem, ending, perhaps, with one of Broadway's dazzling entertainments. Next afternoon a fascinating drive will be arranged, taking in Upper and Lower New York, River-

side Drive, Broadway, the theatrical district, the motley Ghetto, and the Bowery. Wall Street, the site of financial earthquakes, will be visited, and a stop made at the Battery to see the Aquarium.

On Monday evening the visitors' belongings are collected and they are taken to Jersey City station, whence the Baltimore and Ohio railroad carries them to their next destination, Washington, the capital of the United States, where two days packed with interest will be spent. The drive on the afternoon of Tuesday will show a succession of beautiful and dignified buildings, some of which bear great names: the Lincoln Memorial, the Capitol building, Old Georgetown, the White House, the Tomb of the Unknown Soldier at the Memorial Amphitheatre, and the wonderful new Arlington Bridge over the Potomac River.

The morning of Wednesday will give the travellers a chance to explore at leisure some of the many places which will still remain to be seen in Washington; but in the afternoon they must be on their way again, and from the vast Union Station they take train to Chicago, arriving there at 8.45 on the morning of Thursday, August 8th.

FROM CHICAGO TO LOS ANGELES

Chicago, the world's greatest grain market and the second city of America, will more than fill a day. The party will drive along the Michigan Boulevard and around the famous "Loop District," and have a glimpse of the Wrigley Building, the magnificent City Hall, perhaps the Union Stockyards, and other points of this progressive city. The headquarters of the American Medical Association and of its *Journal* are in North Dearborn Street. Chicago is one of the greatest transport centres of the world, and handles a ceaseless stream of traffic not only by air, rail, and road, but by water also, for the city lies on the southern shore of mighty Lake Michigan, whose waters cover 22,000 square miles. Like New York, everything about Chicago and its environment is conceived on a gigantic scale, by nature and by man.

That evening the party will board train for a journey of absorbing interest by the Atchison, Topeka, and Santa Fe railroad, through the States of Illinois, Missouri, Kansas, Colorado, and New Mexico. On their way across the Middle West they will pass through Kansas City, at the junction of the Kansas and Missouri rivers. From there a steady climb from 780 feet above sea-level, past Hutchinson, 1,530 feet, Dodge City, 2,486 feet, turning south-west at La Junta, 4,060 feet, to Glorieta, where the line reaches an altitude of 7,437 feet. Then the train drops to Albuquerque, at 5,000 feet, and after a brief halt to view this picturesque university city of New Mexico, the travellers enter Arizona, climbing again and