II.

DISEASES OF THE BRONCHI.

ACUTE BRONCHITIS.

Definition.—Acute bronchitis is an acute catarrhal inflammation of the mucous membrane lining the larger and medium sized bronchial tubes, usually involving the trachea to a greater or less extent (tracheitis). It is a very common disorder, and while not serious in the healthy adult, becomes of grave import in infancy and old age, owing to the tendency to extension, with resulting pulmonary complications. When attacking the finer tubes its manifestations become more severe and will be described separately (see Capillary Bronchitis). It is bilateral and may occur as an independent affection, or as a complication in association with other diseases.

Etiology.—Acute bronchitis is a common result of "catching cold" and is most frequently the downward extension of an acute coryza. It is most prevalent in the changeable weather of early spring and autumn. Like all catarrhal affections, it is prone to attack delicate people, victims of malnutrition, those who live in unhygienic surroundings and especially persons exhibiting a strumous diathesis. Some, otherwise healthy subjects, seem peculiarly susceptible and develop acute bronchitis upon the slightest exposure. Among the exciting causes

are: wetting the feet, chilling the body after warm bathing, going out from a warm room when perspiring, exposure after singing or prolonged speaking, the draughts in cars, insufficient clothing, etc. A sedentary life, enervating habits, bad drainage, or improper food are all potent factors in lessening the power to resist. *Too* much clothing, a fondness for warm baths, superheated homes and especially close confinement therein during the winter months render people particularly susceptible to the changeable spring weather. Hothouse kept children by over-zealous parents fall easy victims. The extremes of life, with their lesser power to resist, furnish the larger quota of cases of bronchitis. The inhalation of irritating foreign material, common dust or that of steel or coal, pollen, cotton, etc., or, again, irritating gases, chlorine, ammonia, illuminating gas, not infrequently excites a simple bronchitis. It often occurs also in association with other diseases; notably, measles, whooping cough, typhoid fever and variola. The bronchitis of asthma, heart disease, chronic nephritis, gout and various nervous diseases, is of the chronic type.

Pathology.—The initial lesion is a hyperæmia of the mucous membrane, varying in degree according to the severity of the attack. In mild cases there may be only limited areas of arborescent redness, but in the severe cases the mucous membrane becomes turgescent, smooth, shiny and swollen, with œdema of the submucosa. During the initial hyperæmia there is dryness of the surface, followed in a few hours by the exudation of clear, transparent mucus. As the disease progresses the secretion becomes richer in mucin and exfoliated ciliated epithelia, hence thicker and more tenacious, gradually changing to

muco-purulent character, yellowish in color from the presence of pus cells. If of greenish tint it is due to blood coloring matter, though blood rarely appears in acute bronchitis except as it stains or streaks the mucus, *i. e.*, in minute quantities.

Symptoms. — Acute bronchitis begins with the familiar symptoms of general cold, headache, coryza, sore throat, hoarseness, general pains and aching, chilliness, accompanied by slight fever. The temperature rarely rises above 101° to 102° in a simple bronchitis, but the amount of cough and bronchial irritation is not always in proportion to the fever, some cases with very severe cough showing but little rise of temperature and vice versa. The patient experiences sensations of tightness, oppression, rawness and soreness, amounting in severe attacks to thoracic pain. The diaphragm and abdominal muscles become sore and lame if the cough is severe and all the chest symptoms are aggravated by coughing. The *cough* is a constant symptom. At first it is short, hacking and dry, frequent and distressing, causing pain and soreness of the chest and abdomen and in some cases vomiting and involuntary urination. During this early stage the expectoration is scanty, thin, transparent mucus. Later, the cough softens, becomes gradually looser, the soreness and distressing symptoms diminish and the expectoration changes, becoming freer, more abundant and muco-purulent or purulent in character. The condition terminates favorably in a period varying from a few days to two weeks, with proper care and treatment.

Physical Signs.—In mild cases these may be absent altogether. Percussion yields negative results in simple

bronchitis. Palpation gives bronchial fremitus. Auscultation shows in the early stage, rough, accentuated breathing, with dry rales, varying from sibilant to sonorous, according to the size of the tubes involved. With the development of freer secretion, the rales become moist, bubbling or rattling, coarse or fine, according to the size of the tubes affected and changing in character or location upon coughing. Examine the base of both lungs daily and watch the temperature carefully during acute bronchitis in infancy and old age, to discover first evidence of capillary or pulmonary extension.

Complications.—These are not uncommon in acute bronchitis, especially in infants and the aged. The most frequent are capillary extension, broncho-pneumonia, atelectasis, asthma, emphysema and disturbances of circulation.

Diagnosis. — The suddenness of attack, method of onset, the low temperature, the absence of consolidation or severe constitutional symptoms usually make the diagnosis clear. The danger lies in the fact that the ease with which the presence of bronchitis is determined may lead to the overlooking of some more grave coexisting condition. The rales of simple bronchitis are usually bilateral; if unilateral suspicion is felt of some localized lesion, pneumonic or phthisical. Phthisis and broncho-pneumonia are frequently ushered in with the symptoms of acute bronchitis, hence it is well to examine cases of supposed simple bronchitis carefully for evidence of pulmonary consolidation. Percussion dullness does not appear in uncomplicated bronchitis. Extension of the disease to the smaller bronchioles or pulmonary vesicles is marked by rise of temperature and severity of symptoms

—dyspnœa, dusky color to the skin and systemic depression.

Prognosis.—In uncomplicated bronchitis the prognosis is always favorable. It never leads to a fatal termination except in the extremes of life. In gouty subjects or those who are debilitated it has a marked tendency to become chronic. If complications arise by extension to the finer tubes or air vesicles the prognosis is more grave, the complication then becoming the important factor. Pulmonary involvement is particularly apt to occur in alcoholic habitues or during the course of measles or whooping cough.

General Treatment.—"If a patient has a temperature above normal keep him in bed," is a wise axiom, especially in acute troubles. While acute bronchitis usually yields promptly to treatment, the fact that a certain proportion of cases prove obstinate and protracted and not infrequently lead into more serious conditions emphasizes the importance of giving the most simple cases careful attention. Warmth, rest in bed and an even temperature, all favor early subsidence of the inflammation and freer secretion. In cases marked by soreness or pain, a mustard plaster or flaxseed poulticing is most excellent. During the early stage, with soreness, oppression and racking cough, moist air gives great relief. Inhalation of the steam arising from, ℞. Menthol, grs. x; Tr. Benzoin, ʒi; Aqua, ℥xvi, in a croup-kettle, teapot or open vessel is of much benefit.

If the cough is dry, incessant, painful and fatiguing, robbing the patient of rest and sleep, especially in debilitated subjects, a palliative will give happy results and favor prompt recovery. The following is reliable and

satisfactory: ℞. Codeia, grs. iii to iv; Syr. Yerba Santa, ℥iv. S. One teaspoonful every three or four hours as required.

Heroin Muriate in $\frac{1}{12}$ to $\frac{1}{24}$ grain doses in tablet or vehicle as above, is very efficacious as a nervous sedative and does not inhibit secretion. In the aged or those who are enfeebled or ill nourished, a severe cough may prove exhausting, in which case quiet is imperative and concentrated liquid nourishment at regular intervals with stimulation should be employed.

Remedies.—*Aconite.*—Early stage, alternating fever and chilliness; thirst, restlessness and anxiety; shooting pains here and there; short, dry, tickling cough; constant laryngeal irritation.

Belladonna.—Dry, tearing, spasmodic cough; worse at night; waking from sleep and keeping awake, in children followed by crying. Face flushes and eyes suffuse during cough, with throbbing headache. Involuntary micturition during cough.

Antimonium iodide.—Excellent remedy in simple bronchitis with profuse muco-purulent expectoration. Less oppression than *Ant. tart.*, because expectoration is easier.

Antimonium tartaricum.—Similar in action to *Ipecac*, but the condition is more severe. Smaller bronchial tubes affected, being filled with muco-purulent secretion which the patient is unable to raise. Great dyspnœa from suppressed expectoration, cannot get air and has to sit up in bed; oppression temporarily relieved by expectoration. Chest filled with fine, rattling rales. Sweat, weakness and cyanosis. Especially useful in children and the aged.

Bryonia alba.—Inflammation of the trachea and larger bronchi. Hard, dry, tearing cough, causing frontal headache. Chest is tight, painful and sore. Respiration oppressed and cough suppressed, because both cause sharp, sticking pains in chest. Patient lies quiet, as motion, talking or deep breathing causes cough and the chest is too painful. Also excellent for hard morning cough with free expectoration, though cough causes pain and leaves bronchial soreness.

Causticum.—Short, dry, hacking cough, worse toward night, with laryngeal rawness. Involuntary emission of urine when coughing. Hoarseness or loss of voice, particularly in the morning.

Drosera.—Violent paroxysms of coughing following each other in rapid succession. Muco-purulent expectoration. Roughness of voice with hoarseness and cough of a deep bass character.

Ferrum phosphoricum.—Fever, with less thirst, restlessness and irritability than *Aconite*, but more prostration. Chest tight, raw and sore; blood-tinged mucus. Thin, phthisical subjects.

Hepar sulphur.—Hoarse cough (between dry and loose), general wheezing and huskiness throughout the chest. (Not the rattling of *Ipec.* or *Ant. tart.*) Moderate, yellowish expectoration, especially in the morning. Other catarrhal symptoms present with evidence of strumous type; nasal stoppage from hypertrophied turbinateds or adenoids; enlarged tonsils and submaxillary glands. Patient is very sensitive to cold, and removal of covering or other exposure aggravates cough or precipitates the attack.

Ipecac.—One of the best remedies for catarrhal affec-

tions of the respiratory tract as inflammation subsides and exudation takes place. Audible, bubbling rales throughout the larger and medium bronchi. Cough spasmodic and paroxysmal, often exciting gagging or vomiting, with free expectoration. In children the cough is suffocative and the patient may become cyanotic during the paroxysm.

Kali bichromicum.—Remedy for the later stages with large amount of tough mucus in the larynx, trachea and larger bronchi. Rough, hoarse voice with stuffy, hoarse cough and expectoration of thick, tenacious, yellow or yellow-green mucus. Prostration, yellow furred tongue and offensive breath. Especially the bronchial catarrh of old people with tenacious expectoration, disgusting gagging effort and offensive odor.

Kali carbonicum.—Hoarseness and cough with the typical tenacious expectoration of the *Kalis*, its particular indication being sticking pains in the chest when coughing and early morning aggravation.

Phosphorus.—Hard, dry, hacking cough from tickling in the throat pit, with scanty expectoration of frothy mucus or mucus tinged with blood. Respiration is short and difficult from tightness and oppression across chest. Larynx is involved with hoarseness or aphonia. Speaking causes a sense of soreness in the larynx and trachea. Cough grows worse toward evening with increase of hoarseness.

Pulsatilla.—Dry night cough relieved by sitting up in bed. Loose cough with expectoration of yellow mucus. Pale, delicate females with chilliness and menstrual irregularities.

Rumex crispus.—Incessant, dry cough, due to irritation in the throat pit, worse in the evening and after lying down. Cough aggravated by pressure, talking and inhaling cold air. There is a sense of rawness and soreness in the larynx and behind the sternum.

Sanguinaria.—Severe hacking cough with pain in the breast and sense of tickling and dryness. Burning and pain in the nose with intense dryness or watery coryza.

Spongia.—Hollow, barking, croupy cough with burning rawness and pain in the larynx and trachea. The hoarseness and croupy character of the voice and cough, showing laryngeal involvement, is the great indication for *Spongia*, especially with the night attack or aggravation.

Sticta and *Hyoscyamus.*—To be thought of for a dry, hacking cough from tickling in the larynx and bronchi. The *Sticta* cough is due to great dryness and hyperæmia of the nose, throat and respiratory tract, while *Hyoscyamus* has a more purely nervous cough with less catarrhal involvement.

Squilla.—Loose, rattling cough with profuse expectoration, associated with sharp, sticking chest pains.

CAPILLARY BRONCHITIS.

Definition.—Capillary bronchitis is an acute catarrhal inflammation of the finer bronchial tubes. It is almost exclusively a disease of infancy, but a few cases are encountered in the aged. It is bilateral and diffuse.

Etiology.—Capillary bronchitis may occur primarily, but is most commonly the result of extension of an acute inflammation of the larger tubes and hence is excited by the same sources of irritation, undue exposure, and predisposition that cause simple acute bronchitis.

Pathology.—Capillary bronchitis presents much the same pathological changes as are seen in acute bronchitis of the larger tubes, with this exception that as the capillary bronchioles are so much smaller in calibre and contain no cartilage in their walls the swelling and occlusion when inflamed is much more rapid and complete. The mucous secretion, rich in cellular elements, promptly closes these minute tubes with resulting collapse (atelectasis) or broncho-pneumonia of the air vesicles to which they lead.

Symptoms.—The earlier symptoms are those of a simple acute bronchitis, but with greater intensity, merging into those of respiratory obstruction. There may be a chill or chilliness, followed by fever, restlessness, hacking cough, pain and soreness. As the capillary tubes become obstructed with viscid secretion, the cough grows suffocative, the patient shows marked drowsiness, the dyspnœa is pronounced, the respirations are labored and increased in frequency to forty to eighty per minute. The pulse is weak and rapid, 120 to 150 per minute. Cyanosis develops and is a very prominent symptom, with cool clammy sweat, great restlessness, the respirations grow faint and superficial, the pulse fluttering and uncountable, and the patient sinks into the fatal stupor of deficient blood æration and cardiac failure.

Physical Signs.—Percussion shows an absence of distinct areas of consolidation. Auscultation reveals the subcrepitant rale, which is a fine, moist rale, heard during both inspiration and expiration. Vesicular breathing is diminished or suppressed in localized areas. The earlier rales are sibilant, but they disappear with the formation of secretion and the subcrepitant rales take

their place. These are caused by the separation of the agglutinated surfaces of the capillary bronchioles and constitute the diagnostic sign of capillary bronchitis.

Complications.—The most important are atelectasis and broncho-pneumonia.

Diagnosis.—From broncho-pneumonia, with which it is most apt to be confused, the separation is most difficult. Pathologically, the two conditions are distinct, but clinically they are the same. Many recent writers devote only a casual mention to capillary bronchitis from a pathological standpoint, treating it clinically, however, as inseparable from broncho-pneumonia. A broncho-pneumonia must always be associated with a capillary bronchitis, and while it may be possible for a capillary bronchitis to exist very briefly without a broncho-pneumonia, the extension of the inflammation to the air vesicles seems inevitable in so short a time that it is an astute observer who can clearly demonstrate the presence of one without the existence of the other. The strong diagnostic points, as emphasized, of capillary bronchitis as differentiated from broncho-pneumonia are the bilateral distribution of the subcrepitant rales, the absence of distinct areas of consolidation, the patients' age (infancy) and the seeming greater suddenness with which obstruction to respiration, exhaustion, cyanosis and stupor appear and develop. Acute tuberculosis has more sweat, greater variation in temperature, apical involvement, and the presence of the *tubercle bacilli*. Pulmonary œdema is associated with cardiac disease.

Prognosis.—The age of the patient, the extent of respiratory obstruction and the condition of the heart influence the outlook. In general, the prognosis is unfavorable.

Treatment.—The general management of capillary bronchitis and the remedies indicated are the same as in broncho-pneumonia to which the reader is referred.

PLASTIC OR FIBRINOUS BRONCHITIS.

Definition.—May occur as an acute or chronic inflammation of the bronchial tubes and is characterized by the formation of casts of the tubes caused by the unusual fibrinous character of the exudate. These casts are expelled with dyspnœa and cough. This condition should not be confounded with the casts or exudate found in diphtheria, hæmoptysis, phthisis, or the casts of the finer bronchial tubes sometimes met with in pneumonia.

Etiology.—This disease is mostly found in middle life, prior to forty years of age. It is rarely encountered in childhood or infancy and most frequently occurs in males. Its exact etiology is unknown, but it is apparently dependent upon a peculiar constitutional diathesis. Patients affected by plastic bronchitis are usually feeble and anæmic, with latent phthisical tendencies. The spring is the time of the year when it is most prone to occur.

Pathology.—The casts consist mainly of mucin entangling in its meshes various corpuscles, ciliated and cylindrical epithelium, oil globules and granular debris. The casts are usually expelled in a rolled up form, like gelatinous masses, and are generally mixed with free mucus and blood. When carefully unrolled and examined their peculiar formation will appear. In some cases

when the larger bronchial tubes are involved the main stem of the cast may be as large as the little finger.

Symptoms.—These are at first those of an acute bronchitis, but as the casts form there will be chilliness or a chill with increased fever and a hard, racking, straining cough. Dyspnœa is present and may be very great if a large tube is the seat of deposit, thus cutting off an extensive tract of lung tissue from respiratory function.

The first expectoration is that of acute bronchitis, but later, after a violent paroxysm, a croupous cast or several of them will be expectorated, relieving the more acute symptoms. The temperature falls and the cough and dyspnœa materially decrease. This may end a simple case, but if a severe one the process may continue and the casts reform in a time, varying from a few hours to several days. The duration of the ordinary acute case is from three or four days to two or three weeks. Diminution in the number and size of the casts with a reduction in the temperature and relief from the dyspnœa and cough marks the progress toward recovery. In the enfeebled if the attack is severe and the area involved extensive, the tendency may be toward a fatal termination. In this event the temperature runs high, the dyspnœa is marked, the pain and cough severe, the respiration rapid, pulse tense, the appearance becomes cyanotic and death takes place from asphyxiation.

The chronic form of plastic bronchitis is secondary to a protracted chronic bronchitis and is associated with symptoms merging with those of the associated pulmonary condition—phthisis or emphysema. The chronic form is marked by remissions for months at a time, during which there will be entire absence of exudation or resulting symptoms.

Physical Signs.—Are those due to obstructed lung tissue. There is an absence of vocal fremitus over the limited area cut off from the respiratory function with diminution in the respiratory sounds. There will be flatness on percussion if this area becomes filled with exudate or collapses, or if it is associated with a phthisical consolidation. After the expulsion of the casts there are moist, whistling rales over the diseased area. Generally speaking, the dry and moist rales of bronchitis attend. Plastic bronchitis often leads to broncho-pneumonia.

Diagnosis.—Is impossible unless the characteristic exudate appears in the sputum. Examine this very thoroughly when the symptoms lead to suspicion of the disease. At first it may appear lumpy, but floated on water it will unfold and reveal its tree-like form. From diphtheria it is differentiated by the fact that in diphtheria the exudate first appears in the pharynx and contains the Klebs-Lœffler bacilli.

General Treatment.—Generally speaking, is the same as in acute or chronic bronchitis. The indication is to remove the bronchial obstruction. Hot steam vapor and inhalations of Menthol, Benzoin, Hypochlorite of Lime, Iodine, or Creosote (one drachm to the pint of boiling water). Emetics are contra-indicated because of the subsequent depression. In chronic cases, a change of climate, going to a warm, equable temperature, or a sea voyage is beneficial. Regulate the general regime and diet.

Remedies.—Of the homœopathic remedies the following are indicated and beneficial:

Kali bichromicum.—Rough, hoarse voice. Hoarse, metallic cough with pain in chest and tightness. Great dyspnœa and oppression, especially at bifurcation of bronchi, as if the mucous membrane were thickened. Expectoration of stringy mucus. Coughs up casts of elastic, fibrinous nature, followed by loud mucous rales and wheezing, rattling cough. Prostration.

Iodine.—Hoarseness, tightness and difficulty of respiration. Wheezing, sawing breathing with dry, barking cough, and finally expectoration of blood-streaked mucus. Emaciation and debility with glandular and catarrhal diathesis.

Bromine.—Scraping and rawness upon respiration with voice hoarse or lost. Croupy cough with sudden paroxysm of suffocation, as if the chest were full of smoke. Weakness and lassitude

Spongia.—Hoarseness with sense of a plug obstructing respiration. Dry, barking, hollow, croupy or asthmatic cough, with wheezing and whistling breathing and great weakness in the chest. Burning, sore pain in chest and bronchi.

Kali iodide.—In saturated solution, three to ten drop doses, administered in water after each meal, is of value in obstinate cases or those where syphilitic taint is known or suspected.

CHRONIC BRONCHITIS.

Definition.—Chronic bronchitis is a chronic catarrhal inflammation of the mucous membrane lining the bronchial tract. It may result as a sequel to repeated attacks of simple acute bronchitis or it may develop as secondary to a variety of morbid conditions.

Etiology.—Climate exerts an important influence. It

is especially prevalent in damp localities and during the winter months. Old people are particularly liable to have it; it is the "winter cough" of old men. The young are less frequently affected, a chronic cough in them usually indicating deeper affections. It develops secondarily in phthisis, emphysema, gout, Bright's disease and various cardiac affections, especially those of the right heart which favor pulmonary stasis.

Morbid Anatomy.—The local changes vary with the duration and extent of the disease and also depend much upon the underlying condition. In the initial stages of an uncomplicated chronic bronchitis the changes are confined to the mucous membrane, but in long lasting cases the submucosa, in fact, the whole tube structure, may become weakened and undergo dilation. At first the mucous membrane becomes thickened, granular, and denuded of epithelium in areas; later these portions undergo atrophy and even ulceration.

Physical Signs.—The chest is distended and its movements limited, this is due to the emphysematous condition. Percussion shows resonance. Auscultation shows a long expiration blended with all kinds of rales, high and sibilant or deep-toned and snoring.

Symptoms.—These vary with the duration and degree of the disease. There is no pain nor soreness. The respiration is wheezy and oppressed. The patient puffs and blows and cough is excited upon exertion, ascending stairs, etc. (due not so much to the bronchitis as the accompanying emphysematous changes). There is no fever except during acute aggravations. The cough varies with the weather and the season. Free and comfortable in the summer, but returns in winter, severe and

persistent. In the *dry* form (atrophic stage) the cough is paroxysmal and racking, with scanty expectoration, requiring a great effort to raise it. In the majority of cases there is abundant secretion of muco-purulent type. In the morning hours the cough and expectoration is most troublesome, being the effort to rid the tubes of the night's accumulation. The general health may be fairly good, the only serious tendency being to develop emphysema or bronchiectomy. There are certain cases in which there is an excessive amount of thin, purulent secretion, often greenish, with an offensive odor. This condition is termed *bronchorrhœa* and may last many years without serious effect upon the general health, but is apt to lead to dilatation of the bronchi (bronchiectasis) or to a "*fœtid* bronchitis," with offensive odor and expectoration in thick yellow masses. "Fœtid bronchitis," however, is more apt to be associated with bronchiectasis, abscess, gangrene, or decomposition in phthisical cavities.

Dry bronchitis with atrophy of the tissues is most apt to be found in the aged, especially associated with emphysema. Chronic bronchitis is usually incurable owing to the age and the underlying conditions. It may appear to yield to treatment only to reappear the following winter.

General Treatment.—The general condition, diet, hygiene, etc., are of the utmost importance in treating a case of chronic bronchitis. Such cases, owing to the underlying conditions, present a great variety of symptoms and in prescribing for these cases a careful investigation is necessary to ascertain all associated ailments, and thus in outlining a plan of treatment to cover thoroughly and intelligently the whole morbid situation.

Such cases should seek a warm, equable temperature—Georgia, South Carolina, Florida, Southern California and Southern France are particularly desirable. A change of climate is often very beneficial. The atmosphere should be pure and dry and the altitude moderately high. Personal hygiene and due regard to nutrition are highly important. In damp, foggy, changeable weather, with east winds, the patient should stay indoors. He should wear woolen underclothing, being careful not to change to lighter weight too early in the spring and to resume heavier weight in season in the autumn. Bathing should be frequently and carefully done. Sponging the face, neck and upper chest, night and morning, with cold salt and water is particularly advantageous, strengthening the locality and inuring the region to exposure. Digestion should be made good, the diet should be plain and nutritious. The various malt extracts taken after eating, and cod liver oil especially, are often very beneficial. If exhaustion is marked or the patient is elderly, stimulation—whiskey, milk punches or eggnogs, should be taken. Opiates or sedatives for the cough are rarely required in chronic bronchitis—expectoration of the accumulated secretion is desirable. having the tendency, as it does, to decompose and further irritate. But if the secretion is scanty and the cough incessant, racking and exhausting, particularly at night, Heroin or Codeiæ, in tablets, or the formulæ given for acute bronchitis, may be administered with great relief and advantage. Inhalations of Creosote, Terebene or Eucalyptus are often of benefit if the secretion is putrid.

Remedies.—In considering these the range is very extensive, as there are not only the cough and local symptoms of the bronchitis per se to relieve, but the associated or underlying condition to consider, and while remedies may at times be necessary exclusively for the bronchitis, better results are often obtained by giving considerable attention to the diseased condition underlying the bronchial lesion.

Ammonium carbonicum.—A tendency to failure of the respiratory and circulatory function. Especially suited to old persons or those much enfeebled, with large accumulation, loud rattling rales and oppression, with little ability or effort to expel secretion. Threatened cardiac and respiratory failure.

Antimonium arsenite.—Chronic cough associated with emphysema and heart affection. Asthmatic breathing, unable to lie down, with profuse expectoration and wheezing or rattling respiration

Antimonium iodatum.—Introduced by Dr. Wm. C. Goodno, and recommended by him as very efficacious in the chronic bronchitis of phthisis or that following influenza. Spasmodic cough, especially morning and evening, free expectoration of muco-purulent matter, loss of strength and flesh with night sweats.

Antimonium tartaricum. —Profuse amount of mucous secretion with inability to expectorate; threatened suffocation with fine mucus rales. Evidence of deficient aeration of the blood, patients lose breath and are cyanotic. Particularly suited to the attacks of old people and infants.

Arsenicum iodatum.—The chronic bronchitis and cough of incipient phthisis. Anæmia and emaciation, anorexia, hyperexia, dyspnœa. Usually a racking, rather dry cough, with purulent expectoration, often blood streaked.

Belladonna.—Dry, paroxysmal cough, nightly aggrava-

tion, spasmodic in character and causing flushing of the face and headache, with little or no expectoration. Nervous element.

Carbo vegetabilis.—Bronchitis of old people with little power to expectorate. Exhausted constitutions with torpor of bronchial lining and muscular fibres, profuse mucous expectoration with blue nails and cold extremities.

Drosera.—Severe paroxysmal cough; expectoration of yellow mucus or pus, worse at night; deep hoarse tone to the cough and voice.

Grindelia robusta.—Hard spasmodic cough, fine rales present but scanty mucous expectoration, associated with dyspnœa and emphysema.

Ipecac.—Bronchitis associated with asthma. Spasmodic loose cough, loud mucous rales, free expectoration, with gagging and dyspnœa.

Kali bichromicum.—Torpid and inveterate cases, whistling, wheezing in the chest with burning in the trachea, hoarseness of voice and cough, tough muco-purulent expectoration sometimes fœtid.

Lycopodium.—Valuable remedy for the chronic bronchitis of phthisical subjects, especially associated with the gouty diathesis—flatulence, acid dyspepsia and constipation.

Pulsatilla.—Moist cough with profuse expectoration of yellow or greenish muco-purulent secretion. Especially in anæmic females with uterine irregularities, dyspepsia, bad tasting eructations, erratic pains, chilliness and mental depression.

Phosphorous.—Cough worse night and morning, with huskiness and oppression of chest, small amount of yellow mucous expectoration—thin, feeble subjects.

Rumex crispus.—Dry bronchitis, with hyperæsthesia of larynx and respiratory tract. Cough dry, incessant, hacking, aggravated by pressure, talking, eating, breathing cold air and when lying down.

Spongia.—Cough with tracheal and laryngeal involvement, dry and croupy with rawness in the larynx and hoarseness.

Other remedies to be considered in inveterate cases, are *Sepia*, *Silicia*, the *Calcareas*, *Hepar sulphur*, *Causticum*, *Sanguinaria*, *Sulphur*.

Chininum arsenicosum.—With marked periodicity of the cough when malarial infection is suspected or present.

Kali iodatum.—Obstinate cases showing *Kali* conditions with syphilitic history or taint suspected.

BRONCHIECTASIS.

Definition.—Is a chronic dilatation of the bronchial tubes. It may occur as a congenital anomaly, but this is rare. It most commonly results from any condition in which the muscular walls of the bronchi are weakened or relaxed and not able to withstand strain. Hence it is so often found as a complication of chronic bronchitis where the strain of coughing effort, combined with air pressure and the weight in some cases of the accumulated secretion, cause the walls to give way and dilate; this, occurring time after time in repeated attacks, causes the chronic condition of distention known as bronchiectasis.

Pathology.—The condition may be general or partial and there are two forms, the cylindrical and the sacular. *General* bronchiectasis is always unilateral and