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AN

INAUGURAL DISSERTATION,

ON

Acute Bronchitis.

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Acute Bronchitis.

Bronchitis is a disease of the bronchia; inflammation of the lining or mucous membrane of the bronchial tubes, the mucous membrane being very vascular, there is a determination of blood to the part, which causes congestion and inflamatory thickening of the membrane.

This disease varies much both in degree and in character, there are two distinct forms, viz; Acute and Chronic. We will however examine more especially the Acute form; which may also be divided into Epidemic or Influenza and Sporadic. Epidemic Bronchitis is where there is a great number of cases, scattered sometimes over a considerable region of country arising as it were from contagion, Cullen calls it "Catarrhus e Contagio."

The Sporadic is where there is a case here and there, arising spontaneously without any perceptible predisposing cause. This disease most generally commences by the mucous membrane of the Nostrils, Fauces or Larynx becoming inflamed, the inflammation thence descending into the bronchial tubes. The first symptoms of this are like those of all other inflammations; rigors, then chill, followed by febrile reaction, also hoarseness a difficulty of breathing, sensations of lassitude a sense of heat and oppression felt throughout the praecordia, cough with no expectoration, and tightness or soreness of the chest with little or no pain except sometimes in coughing In the more severe cases these symptoms are very distressing, the countenance is expressive of great anxiety, respiration becomes more

and more laborious, the cough which is usually one of the first soon becomes one of the most prominent symptoms; at first it is a dry, hacking cough accompanied by slight expectoration of white, viscid and frothy mucus, sometimes very painful, usually occurring in paroxysms. At this stage of the disease there is generally a frequent pulse, hot, dry skin, flushed face, furred tongue, intense headache, great muscular depression, together with all other symptoms of fever. In most instances there is a considerable degree of hoarseness, respiration is more difficult in the recumbent than in the erect posture. Sometimes these symptoms gradually subside without any perceptible increase of expectoration, but generally it gradually increases in quantity. So long as the sputa preserves this viscid

transparent appearance, the disease may be regarded as unchecked in violence, but when the inflammation is about to terminate in resolution, the expectoration instead of being colorless and transparent as at first, becomes white and opaque and ultimately yellowish or greenish, along with this change of secretion there is usually an amelioration of the other symptoms. Sometimes however, after the cough and fever have somewhat abated, the soreness and tension diminished, the discharge becomes thiner and more transparent, and the other symptoms undergo a corresponding change for the worse, thereby indicating a temporary increase of inflammation; at length the expectoration becomes free and easy, with opaque and puruloid discharge.

The attack varies in duration generally from

four to ten days, though it sometimes runs on two or three weeks. Occasionally after the subsidence of the acute symptoms, the patient is left in a condition approaching to hectic, with frequent pulse, copious purulent expectoration, night sweats and emaciation.

In the grades of Bronchitis heretofore mentioned, the disease is seldom fatal, except in very old persons and in those whose constitutions have been impaired by previous disease, in whom there is an insufficiency of strength to throw off the copious bronchial secretion.

But cases of a much more severe and dangerous character are frequently met with; in those already alluded to, the inflammation is comparatively slight and confined chiefly to the large tubes; but in these

the inflammation is more intense penetrating much deeper the bronchia, there is great difficulty of inspiration attended by a wheezing sound, occasioned by the narrowing of the caliber of the tubes from effusion; respiration is hurried dyspnoea extreme, pulse very frequent and the general strength speedily exhausted, there are signs of deficient aeration of the blood, such as; the livid appearance of the face and extremeties, cold and clammy skin, &c. This is most common in children and is sometimes quickly fatal, from the complete closure of the small tubes by inflammation.

Bronchitis is not unfrequently complicated with other diseases, especially other forms of pectoral disease, which greatly

augments the danger; it is with considerable difficulty that it is distinguished from Pneumonia in some of its stages, it is very often associated with the miasmatic fevers, at times it comes on in paroxysms at irregular periods like those of Spasmodic Asthma. It may also be complicated with Hepatic disease generally occurring in persons addicted to the intemperate use of Spirituous liquors. It is also a frequent attendant upon the Exanthematous diseases, Hooping cough and Typhoid Fever. It is also one of the first intimations we have of Tubercular deposit.

Diagnosis— Bronchitis is very often confounded with Pneumonia, Laryngitis and Phthisis, generally however they may be distinguished by the

rational signs; if not the physical will always be sufficient. The characteristic signs of this disease, are clearness upon percussion throughout the whole chest, except in cases of great congestion, where there may be some dullness. The mucous membrane of the tubes becomes hardened from inflammation; and the tubes being lessened in caliber by inflamatory thickening, are converted into musical instruments; the sound made by the passage of air from the lungs through the large tubes is called the dry or sonorous rhonchus, a very different sound is produced by its passage through the small tubes the sibilant rhonchus, immediately succeeding this is the moist or mucous rhonchus, formed by the passage

of the air over the mucus in the large tubes, and the subcrepitant from its passage over the mucus in the small tubes, or from the bursting of the air bubbles.

Auscultation reveals some very important facts. In the first stages we very often hear the sonorous and sibilant rhonchi, which soon become mixed with the moist sound. The respiratory murmur is frequently weakened, especially when the inflammation is situated in the small tubes. There are cases of Bronchitis in which the sonorous rhonchus is not heard, there not being sufficient narrowing of the tubes for the production of the sound.

nor are both these always heard under the same circumstances, yet both arise from the same cause, viz; the passage of air through the bronchial tubes, which are lessened in caliber either from inflamatory thickening or from exudation. When one of the larger bronchia is very much narrowed or constricted there is a hissing or whistling sound and this may be known by its persistance during the whole period of inspiration and expiration. When the sibilant rhonchus extends over a considerable surface it is evidence that the inflammation exists in the small tubes.

The respiratory murmur which is usually heard over the whole lung, some-

-times ceases to be audible at one or more points thus giving rise to the suspicion that consolidation has taken place, either from obstruction of the bronchial tubes, by a plug of mucus, or by inflamatory thickening, but by percussion we perceive that the part is sonorous consequently can not be consolidated. There is generally severe pain in the forehead greatly aggravated by coughing, uneasiness in the recumbent posture, a very copious secretion of viscid, frothy and transparent mucus, and also a moderate degree of febrile excitement.

Pathology— The bronchial mucous membrane is reddened, thickened and softened, and sometimes though

rarely ulcerated or gangrenous. When we examine the thorax after death where there is an abundance of undischarged secretion, the mucous membrane being minutely injected, we perceive that the lungs do not collapse on the admission of the pressure of atmospheric air to their external surface. There is sometimes a local collapse, which may be ascribed partly to an excess of the expiratory over the inspiratory power, and partly to the plug of mucus, which by the inspiration is forced into a constantly diminishing passage, and by the expiration into one gradually enlarging so that the air necessarily passes outwards more readily than inwards.

Causes— Cold is unquestionably the most frequent cause of Bronchitis, being very often produced by the too sudden cooling of the body when in a state of free perspiration, atmospheric changes and vicissitudes, heated air, gasses and vapours inhaled into the lungs are also frequent causes. Epidemic influence is a powerful and not unfrequent cause of this disease; it also occurs periodically in some, without any assignable cause.

Treatment— The treatment of this disease is various. In very mild cases where there is but little fever, a saline cathartic, and confinement to the house is generally sufficient to effect a cure,

in the beginning, when there is slight hoarseness and the inflammation has just begun to show itself, it may be aborted by a dose of Opium, or Dovers powder* and Calomel; but as a general thing Opium should not be used, when it does not abort the disease it greatly aggravates the symptoms, by blocking up or cutting off the expectoration.

Bloodletting is considered by many of doubtful efficacy in this disease; yet if there be much fever, a hard pulse, great oppression of breathing, and especially if the patient is young and robust, we would not hesitate to bleed, the bleeding will always relieve the symptoms, even when its ultimate effects may be injurious.

The great danger to be apprehended in the advanced stages of this disease, is that the patient may not have the physical power to disembarass the tubes of the phlegm that overloads them. We are not however justified in abstracting blood to the same extent, in this, as in the other phlegmasia. We very often obtain great relief from topical bloodletting, by the application of cups over the surface of the chest, or between the shoulders; or we may effect the same by leeches. Sinapisms and blisters may be used with great benefit, they must however be applied after due depletion, for in the beginning they very often fail to arrest the inflammation;

while they increase the fever. In children rubefacient liniments, made of solution of Ammonia or oil Turpentine with the Aromatic oils are often preferable to blisters.

Cathartics, are of considerable efficacy; in severe cases a purgative of Calomel and Jallap should be administered in the beginning, followed by depletion and diaphoretics; the lancet, or its substitute Tartar Emetic, should be used in nauseating doses (¼ to ½ gr) every two hours. After the first violence of the inflammation has subsided, we should use expectorants; Squill, Tartar Emetic, Ipecacuanha and Sanguinaria Canadensis, are the best. These may be used alone or in combination, the following are some of the modes of combination.

"℞. Carbonate of Potash 1 ℥, Citric Acid 70 gr, Tartar Emetic 2 gr, Water 2 oz. Dose one Teaspoonfull every four hours. to be given to a young and robust person.

℞ — Tartar Emetic 2 gr, Bitartrate of Potash 2 ℥, Flaxseed tea 1 qt. Dose a wineglassfull every three hours, or the whole in 24 hours, the only danger resulting if any is Gastritis.

℞. Upatorium Perfoliatta ½ ℥, Senica ½ ℥, Boiling Water 1 pt. Dose one Tablespoonfull every four hours.

℞. Tartar Emetic 2 gr, Sulph. Morphia 2 gr, Water 1 oz, Dose one Teaspoonfull every four hours.

℞. Syrups of Squill, Specacuanha, Tolu, and Morphia, - aa 1 oz. Dose one Teaspoonfull every four hours."

If symptoms of extreme debility begin to show themselves, we must give stimulating expectorants, Carbonate of Ammonia acts finely in such cases, given in five or six grain doses, or give
℞. Proof Spirits 1 oz, Tartar Emetic 1 gr, Laudanum 40 gtts, Tinct. Camphor 30 gtts, Dose 5 or 10 gtts three times per day."
Emetics are recommended as being among the most efficient remedies in this disease, they procure immediate relief to oppresion in the chest and dysponoca, as well as excite diaphoresis and free expectoration. Tartar Emetic and Ipecacuanha are the best remedies of this class.
Extensive and long continued counter irritation is frequently of great use,

large blisters, Croton oil, Tartar Emetic Ointment, to the anterior surface of the chest and neck.

When Bronchitis is found complicated with other diseases, the treatment is rendered various by the special symptoms which may arise. When there are Spasmodic paroxysms of an Asthmatic character, emetics of Ipecacuanha during the paroxysm, and then, Tincture of Lobelia in nauseating doses will be found highly useful.

When it is associated with Hepatic disease, the system should be brought quickly under the mercurial influence. And when with miasmatic fever, especially the intermittent form, it will generally yield to quinia after due depletion. —