

arising symptoms of a most dangerous import. These symptoms are apt to give to be of two kinds: 1. Those indicating an overwhelming of the nervous system; 2, those indicating approaching asphyxia.

1. *Nervous Elements*.—There is usually excessive cough, high fever, great headache, loss of sleep, intense restlessness, dry tongue, rapid pulse, then delirium or convulsions, coma and gradual death, preceded by profuse perspiration from paralysis of the muscles of the skin, and extensive bronchial rales from paralysis of organic muscular fibres of the lesser tubes, causing retention of the secretions.

2. *Asphyxia*.—In the other class of cases the approach of asphyxia is seen in the violent efforts at respiration; the perpetual restlessness, the quivering nostrils, the paining lips, the bluish fingers, the general cyanotic appearance, the cold, clammy sweat, the falling temperature, the often gradual drowsiness, cessation of all cough, with bronchial rales and the death rattle. Niemeyer says that impending danger in the capillary bronchitis of children may be often foreseen from the following symptoms: 1. Sinking in of the epigastrium and of the hypochondriac regions, showing that the air cells are being exhausted and not refilled, owing to obliteration of calibre of tubes by retained secretions, etc.

2. Increased and permanent prominence of the supra and infra clavicular regions, showing that air is being forced into these air cells, but does not return, i.e., there is not the normal interchange between the air in the cells and the external atmosphere. So we shall find a species of permanent collapse at the basis of the lungs, and a condition of permanent distention at the apices. In each case normal respiration is not performed, and impending danger is to be dreaded. In the collapsed condition air fails to enter the cells; in the distended condition both air and carbonic acid fail to leave the air cells.

Bronchial catarrh of new-born children, Niemeyer thinks, is often mistaken for organic disease of the heart, as the cyanotic symptoms come on rapidly, from the fact that the child does not cough, and the imperfect development of the muscles of the chest and bronchial tubes permits rapid occlusion of many tubes, and rapid asphyxia by obliteration of the breathing surface.

*Duration*.—It is an acute disease, and will run its course in from five to twenty-one days—rarely over a month. In fatal cases death occurs in children usually between the fourth and tenth days; in adults, between the eighth and fourteenth days. Some cases are much more rapidly fatal. Children often die on the second or third day. The Emperor of Russia died (during the Crimean war) within, I think, 48 hours after the exposure which induced a relapse. Rarely does this form become chronic, but it sometimes lays the foundation for emphysema, and, according to Niemeyer, galloping consumption.

*Diagnosis*.—The diffused character of the chest sounds, the absence of dullness, crepitant rales, rusty sputa, a pain (never acute), the continued shiverings, the dyspnoea, restlessness, and the incessant cough are usually sufficiently characteristic.

*Prognosis and Mortality*.—It is a grave lesion,

and the prognosis depends upon many elements. It is grave (1), if the disease be very extensive; (2), if in the very young or very old; (3), in feeble and delicate persons; (4), if it should complicate chronic heart or lung trouble; (5), if the sputa be very excessive and very tenacious, and symptoms of asphyxia threaten early; (6), if intercurrent disease complicate it.

*The Morbid Anatomy* shows diffused redness—arborescent redness—evidences of congestion; a swollen and thickened membrane; softened and abraded membrane; inflammatory products: if a recent case, scanty and tenacious mucus or fibrinous patches: if of longers tanding, mucus-pus fibrin, detached epithelium, exudation corpuscles, coagulated blood, occluded tubes and portions of lungs with air cells collapsed, and other portions with air cells distended from air retained by the occlusion. Occlusion during expiration would give collapse; occlusion directly after inspiration would give distention simulating emphysema.

From the morbid anatomy we can at once deduce the pathology as being almost certainly an inflammatory affection of the lesser bronchial tubes, involving the mucous membrane primarily; and important as it interferes with the function of respiration. It occurs from checked perspiration, direct action of cold on the membrane, or by extension from the larger tubes; or from the poisons of other diseases, as measles, typhoid fever, gout, rheumatism, small-pox, malaria, etc.; or caused mechanically by direct irritants, as steel, iron, coal dust, etc.

*Treatment*.—If, upon a careful examination of the patient, the cause be found to exist as a continuously operating one, it should, if possible, be removed. Under this head, irritant dusts, cold draughts, damp and cold working rooms, continuous flowing of saliva upon the breasts of children, going from an overheated room into the raw air, working or sleeping in overheated rooms, etc. If the cause cannot be removed at once, such as the poisons of specific diseases, we must regard these conditions, and shape our therapeutics as best we can to palliate the cause, while we endeavor to remove the intercurrent bronchitis. But in the majority of cases we will have to deal with a true catarrh, the result of incautious exposure to cold, and the treatment in these cases will depend simply upon the condition of the patient and the urgency of the demands for relief. In mild cases, and especially in adults, the treatment is comparatively easy, provided you can control your patient. It consists in a gentle laxative, a temperature of 60° to 70°; liq. ammon. acet., 3 ij; spts. ether. nit., 3 ss, every 4 hours; rest in bed; blankets in abundance; a thorough diaphoresis; potass. bromid., grs. xv.; morphine, gr. ½, every 6 hours; hot teas for from 2 to 5 days; and, in suitable cases, inhalations of warm vapor. In cases which cannot be controlled, and which will go out in spite of advice to the contrary, we can allay cough by morphia or chloral, protect the chest by several layers of flannel, order a camphor, or belladonna plaster, and use strong tonics from the start. Should the secretion be very tenacious, we can give bromide