Original Articles.

REMARKS ON ACUTE PULMONARY DISEASES IN CHILDREN.

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SOME changes of opinion which have occurred recently in connection with the acute lung troubles to which children are subject constitute an excuse for this paper.

"Congestion of the lungs" is a term so generally employed that it appears to me worth while to try to define the conditions under which a child may be properly said to be suffering from the effects produced by it — to rescue the expression, if possible, from the ill repute into which it has fallen in the minds of those who object to a name which as constantly used both by doctors and laymen, implies too much, too little, or nothing at all.

Aside from the congestion which accompanies inflammatory conditions of the lung tissues and that which is present in venous stasis of the pulmonary circulation, has the term any valid claims to consideration as an entity? And if it has such claims, are there good reasons for ignoring them? The symptoms to describe which the name is used by some of the best French authorities are those of a frank pneumonia — most frequently of the apex — and differing from those usually observed only in their ephemeral nature: a healthy child is seized with all the rational and physical signs of an acute pneumonia, but in a day or two, aside from weakness, *is well*. In another class of cases the presence of dulness and a soft bronchial souffle is discovered in a child who has been ill only a day or two with a considerable elevation (103° – 104° F.) of temperature and no special symptoms pointing to the chest. These signs fade away with little if any redux crepitation, and the child is soon playing about. Do not these cases correspond exactly to what is so often observed in epidemics of typhoid in cases of children? Are they not aborted pneumonias? Is it not better to call them so, in view of the fact that the Fraenkel-Talamon pneumococcus has been found in the sputa of a case which lasted only three days?

In that condition of the lung which sometimes accompanies an acute pleuritic effusion, and may give rise to symptoms which lead to further (and unsuccessful) tapplings, we have something with a good and sufficient reason for existence — an intense congestion of the lung tissue which should, I think, be called "*pleuro-pulmonary congestion*," and not "congestion of the lung," or "lungs." Another disease in which, so far as we know, the condition of the lung is one of intense congestion, but which gives rise to symptoms so closely resembling a pleuritic effusion that the differential diagnosis is impossible excepting by means of an exploratory puncture, is Gromcher's "*Spleno-pneumonia*." I consider both of these maladies properly labelled (so to speak) by the terms just quoted, as conveying a definite idea of the diseases referred to; and it appears to me far better to adhere to the terms "*Aborted pneumonia*," "*Pleuro-pulmonary congestion*," and "*Spleno-pneumonia*," than to lump three diseases which present such very different symptoms as "*Congestion of the lungs*," the use of which should be limited to a condition rarely met with (in children at least) and to which I shall soon have occasion to refer.

Until within comparatively a few years so much confusion has reigned regarding acute pulmonary disease in children that the existence in them of a frank pneumonia of the type which is seen in adults has been denied by some, its great rarity and extreme gravity emphasized by others, while a third class of observers have insisted that it is frequently met with at all ages. From what standpoints these widely divergent views have been obtained I will try to explain a little further on. At this point I will merely state that frank (called also lobar, croupous, or fibrinous) pneumonia is recognized now as a common disease of childhood; that although most frequently observed between the second and sixth years, it also occurs in infants, and when uncomplicated is essentially benign until the twelfth year is passed. It is by far the commoner form of the disease in Boston among children who are well housed and cared for — the death of a child from "*pneumonia*" of any kind being extremely rare in the best dwelling portions of the city, bronchitis and gripe having under their conditions but slight tendency to result in broncho-pneumonia, which is practically the only type that kills, unless the Fraenkel-Talamon pneumococcus finds its way to the heart or brain in the frank form of the disease.

Broncho-pneumonia differs from the benign form as radically as any two diseases affecting similar organs can possibly differ. It requires only dirt, neglect, or overcrowding to thrive and *spread* — for its infectious nature (particularly in those forms of the disease which are most frequently observed in hospitals and other institutions where children are congregated) can no longer be regarded as doubtful. It may be caused by the presence in the lungs of any one of four microbes: the Fraenkel-Talamon pneumococcus, Friedlander's pneumococcus, the streptococcus, and the staphylococcus. In other words it is a *non-specific* infectious disease. Three fairly distinct types can be distinguished: the subacute and protracted, which occurs with the greatest frequency between the fourth and tenth years; the pseudo-lobar, between the first and fifth years; and lastly the acute, suffocating, catarrhal form which is usually observed in babies, and has masqueraded so long and successfully in the guise of "*capillary bronchitis*." It is of the last two that I propose to speak at some length, and incidentally to try to explain the reasons for the confusion which has reigned in regard to frank pneumonia and so-called "*capillary bronchitis*."

In regard to the subacute form, I think one of the most important facts to bear in mind is that it may last a year or two, and end finally in complete recovery. So long as the apices remain sound, there is always hope. Aside from the detection of physical signs at the apices, the diagnosis of phthisis can only be made (in the absence of expectoration) with certainty by obtaining the sputa for bacteriological examination through the use of apomorphia — the lungs being evacuated together with the stomach in the act of emesis. This procedure I have seen carried out, and the diagnosis of phthisis established in more than one instance. The pseudo-lobar or "*mixed*" form is mainly responsible for the very different views which were formerly entertained regarding frank pneumonia.

That this should have been the case admits of several explanations, no one of which would suffice alone; but if taken together, I think they are quite valid. Frank pneumonia is so rarely fatal before the twelfth year that

the records of more than one large hospital fail to show an account of any autopsy of a *child* dying from this cause, and the natural inference might be drawn that a disease which never killed had no claims to existence. Again, cases of pseudo-lobar pneumonia (which is rare at best) have been observed in institutions where infants and very young children only are treated (and broncho-pneumonia is by far the most common form of the disease), where all or nearly all the rational and physical signs of the frank type were present, and the illusion was even carried out so successfully at the necropsies as to lead to the belief, that, while extremely rare, frank pneumonia in children was invariably fatal. Again, under exactly the same conditions a careful examination has shown the real nature of the disease, and strengthened the belief that frank pneumonia never occurred in children, for the reason that all the cases observed in one particular institution which had presented the symptoms of the disease during life proved to be something very different at the autopsy. Clinically the two forms (frank and "mixed") resemble each other so closely that aside from the very strong inferences which can be drawn from the patient's surroundings (particularly in hospitals and institutions), a diagnosis can only be made in many instances when a sudden drop of temperature and immediate convalescence shows what we have been dealing with. The fact that râles are heard in the lung opposite the site of extensive consolidation is not a reliable sign — as the coexistence of a bronchitis of moderate severity and a pure fibrinous pneumonia is occasionally observed. It is rather by the extremely difficult respiration and partial cyanosis, together with the concurrence of an *intense diffuse* bronchitis, that the diagnosis can at times be made. Again, while the consolidation of a pseudo-lobar or "mixed" pneumonia may be very extensive, it has but slight tendency to extend into the axillary space — a fact on which great stress is laid by the best observers. Fortunately, this type of the disease is by no means common.

Another fact which must be always borne in mind is this, no matter what *form* pulmonary inflammation may assume in a child — pneumonia of any type, pleurisy or simple bronchitis — it is often only the mask of acute tuberculosis. Hence the obvious necessity of inquiring into the patient's antecedents and examining carefully for enlarged glands in groins and axillæ. These cases of *apyretic* tubercle in young children, which suddenly burst out and rapidly kill are more commonly recognized at the present day than formerly.

The acute suffocative catarrhal form of broncho-pneumonia proves rapidly fatal in a large majority of cases. It kills so quickly in some rare instances that the gross aspect of the lungs is simply that of a purulent bronchitis. There is not sufficient time for collapse — the baby dies too quickly; and it is only after a long and careful microscopic search that a few of the air vesicles are found to contain leucocytes and disquamated epithelium. It is this type of the disease which is responsible for the lengthy articles which used to appear in all books written on children's diseases, under the heading of "Capillary Bronchitis." Deaths from this cause constantly appear in reports of various boards of health as "bronchitis" or "capillary bronchitis."

Five years ago I was asked to write certain chapters for Keating's "Cyclopædia." and among them one on

"Capillary Bronchitis." I had always thought it strange that I should never have seen a case; and I thought it still stranger when I failed to find an account of a single autopsy on the body of a child who had died of an "inflammation of the fine, but not the finest, bronchial tubes." I found myself suddenly confronted with one of the "most fatal diseases of childhood," of which apparently no child had ever died; and it was only after prolonged search and inquiry that I yielded to the belief which forced itself upon me that such a condition had no claims to consideration as an entity, and I so expressed myself. This belief is held to-day by the best authorities in Paris — physicians to the children's hospitals, whose opportunities for observation are practically unlimited. Acute suffocative broncho-pneumonia is the type which prevails in institutions like the *Eufants Assistées*, where it breaks out endemically in a contagious form every winter. In it the streptococcus apparently plays the leading rôle, although the other microbes which I have mentioned are also found. In the pseudo-lobar form of the disease occurring in infants it is still the streptococcus which is most frequently discovered, while in older children the pneumococcus is commoner. Certain observations have given rise to a suspicion that the bacterium *coli commune* may also cause broncho-pneumonia in the presence of infectious diarrhœa.

There is one other condition which has aided in keeping up the delusion concerning "capillary bronchitis." I refer to those extremely rare cases in which without any antecedent trouble, children (usually infants) are seized with what is apparently a diffused bronchitis of the finer tubes, as shown by crepitant and subcrepitant râles heard throughout both lungs, accompanied by hurried respiration, high temperature, and well-marked cyanosis. Suddenly — perhaps in twenty-four hours — all these symptoms vanish. To what is this condition due? Assuredly, to acute congestion. It is the only manifestation of "congestion of the lungs," pure and simple, which is ever observed in children and consequently the only condition to which the term can properly be applied. The best French authorities believe it to be connected with rheumatism, and in the few cases which have been observed in Paris the children have been of rheumatic or gouty parentage.

In conclusion, I would say that I believe we may consider the following points well established: certain forms of broncho-pneumonia are very infectious, and should be isolated; that "mixed" or pseudo-lobar broncho-pneumonia is responsible for the confusion which so long existed regarding the frequency and gravity of "frank" pneumonia; that children do not have "capillary bronchitis"; and that with them "congestion of the lungs" is extremely rare and tends to speedy recovery.

MEDICAL ETIQUETTE IN AUSTRIA. — A most undignified ending in a question of medical etiquette is reported from Vienna. Drs. Jantsch and Popper, having both been called by the father to a case of measles, could not agree as to the medical ethics involved. They began a controversy which was finally brought to a court for settlement. The judge confessed himself unable to decide such fine questions as were involved in medical etiquette, and suggested that they might apologize to each other and behave as gentlemen in the future.