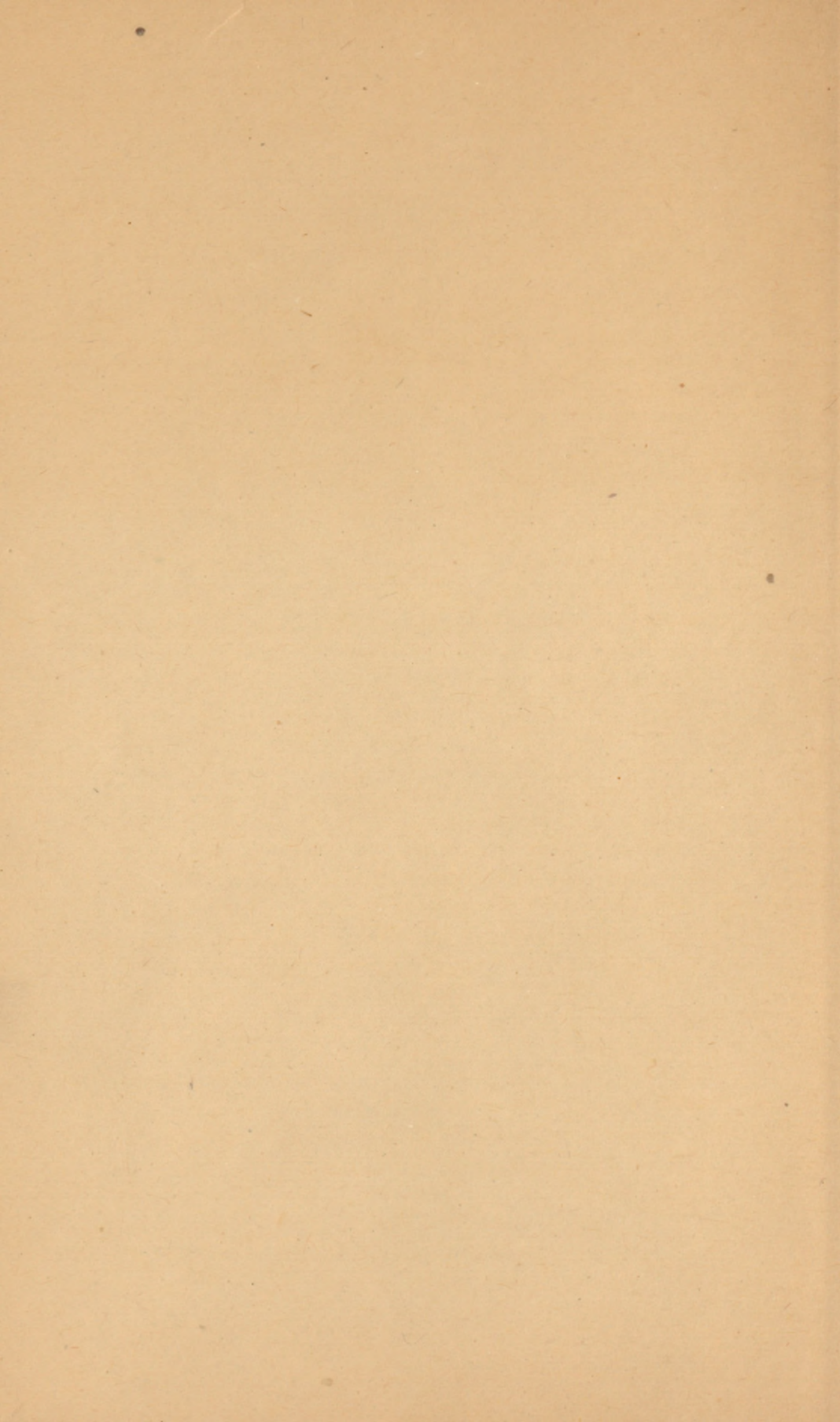


Juley (H. E.)

The differentiation of  
acute broncho-pneumonia

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Compliments of  
**TULEY** (H. E.)  
*(The author)*

[From the American Practitioner and News, August 26, 1893.]

## THE DIFFERENTIATION OF ACUTE BRONCHO-PNEUMONIA AND BRONCHITIS IN CHILDREN.\*

BY HENRY E. TULEY, M. D.

In the writings of most of the older diagnosticians, and in many of the more recent ones, bronchitis and acute broncho-pneumonia have been confounded, but it is the belief of the writer that many cases of bronchitis so diagnosticated are in truth cases of acute broncho-pneumonia.

My attention to this point was first aroused while resident at the New York Infant Asylum during the service of Dr. L. Emmett Holt, and later by a comprehensive and thorough paper on this subject, by Dr. Holt, published in the Archives of Pediatrics in December, 1891.

The object of this short paper, for the facts of which I am indebted to the above-mentioned article, is to second Dr. Holt in his efforts, hoping to make plain the identity of many cases of bronchitis and acute broncho-pneumonia, especially that large class of cases termed "capillary bronchitis."

A glance at our city death-returns will show how prevalent among our medical brethren is the use of this term "capillary bronchitis."

It is evident without demonstration that it is impossible for an inflammation to occur in the smaller bronchi and their terminal branches, in an infant, without spreading to and involving the surrounding structures.

'Tis true that there are cases where it may be impossible, clinically, to make a differentiation, but I believe the number of such is small.

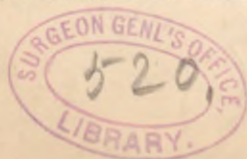
There is little or no difficulty in making out a bronchitis of the larger bronchi, both from the physical signs, the character of the râles, etc., and the general symptoms, absence of great prostration, little fever, etc. It is rare that we find a unilateral bronchitis.

The temperature in bronchitis is usually high during the first day—reaching its maximum then,  $102^{\circ}$  or  $103^{\circ}$ —which lasts twenty-four or thirty-six hours; a fall to  $100^{\circ}$  or normal then occurs, fluctuating for a degree or so for several days, with a subsidence coincident with the cessation of the local trouble.

There is little or no prostration and the symptoms of a severe lesion are absent.

But how different the clinical aspect of a broncho-pneumonia: Given a case with an initial temperature of  $101^{\circ}$ , or thereabouts, and the sub-

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sequent history shows a rise on successive days to  $102^{\circ}$  or  $103^{\circ}$ , with the general symptoms, prostration, cyanosis, etc., present, we are sure of having a serious disease of the lung to deal with, though the physical signs may not present themselves until later.

As to the importance of a diagnosis in these cases, I quote from Dr. Holt's article:

"It may be urged that as there is no difference in the management of a case of severe bronchitis and one of broncho-pneumonia, a diagnosis is of no practical importance. This may be admitted from the standpoint of a therapist in the acute attack. It is, however, essential to a correct understanding of what so often follows such an attack—relapses, recurrences, or chronic pneumonia—to know from the beginning there existed not only a bronchitis but broncho-pneumonia."

Our diagnosis, then, is to be largely made up from the "severity of all the general symptoms, cough, prostration, restlessness, dyspnea, and cyanosis."

If the physical signs of pneumonia be present, bronchial breathing, dullness, etc., there is no doubt about the diagnosis; but I have often seen cases in which at the autopsy disseminated patches of broncho-pneumonia were found, but in which there had not been present dullness on bronchial breathing at careful physical examinations made before death.

The temperature in broncho-pneumonia is variable, no typical courses being followed. In the majority of cases it is high and remittent, in others it is  $103^{\circ}$  and below, but it is not infrequent that we have temperatures running below  $101^{\circ}$ , sometimes even sub-normal; the latter occurring more frequently in children who are very delicate than among those of robust condition. There is generally a morning remission and an evening exacerbation, but it is not unusual to meet with the opposite condition, a higher morning temperature, lasting for several days, the resulting chart being very characteristic. The temperature may reach as high as  $107^{\circ}$  or  $108^{\circ}$ , and is generally fatal. The highest temperature recorded in Dr. Holt's series of cases with recovery was  $106^{\circ}$  of twenty cases, seventy-five per cent proving fatal.

The duration of the temperature is, of course, very varied. Cases are reported as lasting from a few days to fifty-one days or more, the greatest mortality in the cases above referred to being one hundred per cent in those cases lasting four days or less.

Of the physical signs which we may expect in pneumonia, are dull-

ness, bronchial breathing, or change in the respiratory note, râles, and pleuritic friction sounds.

The absence of dullness and bronchial breathing, as before stated, does not by any means preclude the presence of pneumonia; the patches of consolidation may be so disseminated, with normal pulmonary tissue intermixed, as to cause no deviation from the normal pulmonary resonance or change in the respiratory note, except perhaps a slight weakening of the latter. Time and again I have seen cases throughout have no dullness, on superficial or deep percussion, with the other pathognomonic signs of pneumonia present.

The presence and the character of the râles, and particularly their location, is of importance. Finding a localized area of râles, either on one or both sides, should cause pneumonia to be suspected, especially if over one or both lower lobes behind.

Of pleuritic sounds, Dr. Holt says: "They may be looked for in broncho-pneumonia whenever we have large areas of consolidation present, but in my experience, based upon *post-mortem* investigation, and it has not been small, almost never under other circumstances. In the cases under discussion they are so rarely heard that they may then be dropped from our thought altogether."

The general aspect of the child when afflicted with pneumonia is characteristic; the prostration is generally severe, the cyanosis more or less marked, dilatation of the *alæ nasi* present, increase in the pulse and respiration in the proper ratio, and we nearly always hear the "pneumonic sigh" caused by the short, sharp expiration.

It is the combination of these general symptoms which in the absence of pathognomonic signs would cause us to class these cases as broncho-pneumonia, and not "capillary bronchitis," especially those cases which only give signs of generally distributed râles with few other definite signs. The diagnosis can well be verified by an autopsy, if it may come to that.

Broncho-pneumonia may always be considered a dangerous disease. The percentage of mortality has been variously stated. Holt gives it as sixty-eight per cent in his 156 cases recorded, while the mortality from acute bronchitis is practically *nil*.

In conclusion I would state that in the opinion of the writer the term capillary bronchitis can not properly be used, for pathologically, and in the great majority of cases clinically, these are cases of acute broncho-pneumonia and not "capillary bronchitis."





