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# Discussion

*Question* 1. Does Professor Court think that in past days bronchiolitis would have been called bronchopneumonia? If so, has it been the loss of the latter diagnostic category because of the use of X-rays that bronchiolitis has become the correct label?

*Answer.* The answer to the first part of the question is 'Yes' and to the second part 'No'. Although radiology can help, the separation of bronchiolitis as a clinical entity has come about through clinical observation.

*Question* 2. Following on this could the practitioner examining the child in his or her home be told how to distinguish between borderline cases of bronchitis and bronchiolitis, and pneumonia? Merging conditions are particularly difficult to distinguish and he doesn't know how to make a diagnosis of bronchiolitis. How is this done?

*Answer.* This question comes not from ignorance but honesty, and borderline diagnostic decisions do arise. Our guiding principles would be these. First, define what you mean by bronchitis, bronchiolitis, and pneumonia, and apply the definitions as consistently as you can. (We hope the definitions which have emerged from this survey will help.) Second, what does the clinical label mean in terms of disordered structure and function in the child's respiratory system? Third, when in doubt opt for the more serious disease. Bronchiolitis is a disease of the first year of life, mainly from 1 to 6 months of life. You are likely to make the diagnosis between October and March. The key features in a small baby are, a rapid respiratory rate (40 or more), in about half, visible distension of the chest, lower costal recession and indrawing of the suprasternal notch. You often hear a faint wheeze; and with the stethoscope, rhonchi, and often fine crepitations as well. You may be deceived because it so often starts as a mild cold, but within 2 or 3 days the infant becomes quite suddenly ill and develops the features of lower airways obstruction described above. The child's urgent need is for oxygen and since bronchiolitis and pneumonia are still potentially fatal, especially at this age, infants with these disorders should be treated in hospital.

*Question* 3. I am confused about the whole symposium. There has been little talk of bacteria. Do the symptoms of respiratory virus disease overlap with those of bacterial infections? Pneumonia, bronchiolitis and tracheitis must be sometimes due to bacteria. What is the proportion of these relative to those due to viruses and what numbers were due to both bacteria and viruses?

*Answer.* The question should really be asked this afternoon when the infective agents have been considered. Staphylococci, pneumococci and rarely other bacteria still cause pneumonia, and *H. influenzae* causes an uncommon but very dangerous form of croup. There is no evidence that bacteria cause acute bronchitis or bronchiolitis in young children. Some of the many lessons we have to learn is that the majority of respiratory infections are due to viruses; that secondary bacterial infection is uncommon; that viruses alone can cause fatal illness, and that none of the common antibiotics are effective against the common respiratory viruses.

*Question* 4. Were the patterns of virus pneumonia confirmed by radiological examination?

*Answer.* At present, clear, comprehensive and generally accepted radiological definitions in acute respiratory disease in children are not available. An absolute distinction between viral and bacterial pneumonia is not possible by X-ray, but if you find substantial consolidation, i.e. more or less homogeneous shadows in the chest film, without diminution in the lung volume, and involving a lobe or more than a lobe, you are more likely to be dealing with a bacterial pneumonia. By contrast, the virus pneumonias seem to produce more segmental and sub-segmental consolidation or mixtures of consolidation and collapse. With our radiologist colleagues, we have been studying this important subject and will be able, shortly, to present our findings.

*Question* 5. Was the diagnosis of pneumonia reached clinically and confirmed radiologically?

*Answer.* Clinical suspicion, however strong, was not enough. Only if substantial shadows interpreted as consolidation by radiologists were present was the diagnosis of pneumonia accepted in this survey.

*Question* 6. May we have a definition of dyspnoea. Was it in fact a rate in excess of 40 in babies under 1 year and greater than 30 in those over 1 year?

*Answer.* Dyspnoea was not defined and its incidence reflects clinical impression. The peak rate at the height of the illness was measured and considered excessive when greater than 40 in those under 1 year and greater than 30 in those over 1 year of age. This was our own arbitrary division since rapid respiration, which often accompanies dyspnoea in young children, still awaits an accepted range of normality and abnormality at different ages.

*Question* 7. In the light of difficulty in distinguishing bronchitis and bronchiolitis, is there any possibility in the future of introducing some special guidance concerning the presence or absence of airways obstruction? This has been of value in adult medicine.

*Answer.* Airways obstruction may be seen in some children with bronchitis; in bronchiolitis it is always present and more severe. The clinical features are dyspnoea, marked lower costal recession on inspiration, and, in rather less than half, visible distension of the chest. A clinical distinction is possible between bronchitis and bronchiolitis in most cases. As yet, no simple technical measurement is available.