The Later Fate of Children with Staphylococcal Pneumonia

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The extensive literature on primary staphylococcal pneumonia of infants and children is dominated by problems concerning the high mortality rate, the toxic effects accompanying staphylococcal infection, the methods of drug and surgical treatment (of the secondary empyema), as well as the epidemiology of the disease.

Thus far, very little attention has been devoted in the literature to the later fate of the children who had recovered from staphylococcal pneumonia, in spite of the fact that most of the patients leave hospital with incomplete anatomical restitution.

According to the literature available to us, the problem at issue was studied in detail by Heberer et al. [3], mainly from the surgical point of view. Some aspects of the question have been dealt with also by other authors.

There is considerable divergence of opinion as to the management of residual conditions. In one of the 18 cases of Fisher and Swenson [2] decortication had to be performed because of fibrothorax. These authors recommend surgical treatment also for permanent pneumotocele. In Wilson's view [5] surgery is indicated only by recurrent inflammations, and Bouineau [1] as well as Traissac et al. [4] claim that the cavities rapidly disappear even without intervention.

In the lack of reliable data and in view of the disagreement in the literature we have undertaken to make a catamnestic study of the infants and children treated for staphylococcal pneumonia in our hospital in the period 1955—1958.

Material and Methods

Of the recovered and discharged 138 patients 121 could be communicated with; 17 had changed address and could not be located. Of the 121 patients 92, i.e. 76 per cent, reported for a control examination.

These patients had spent an average of 44 days at the hospital. At discharge only 33 (17 per cent) had been cured completely, while in 105 (53 per cent) residues had been still present, including callus in 60 cases, pneumotocele in 29, and both in 16 cases.

Of the completely recovered 33 patients 20 (60.0 per cent) and of

the 105 incompletely cured 72 (68.5 per cent) reported for examination.

When re-examining these patients, the following were carried out.

(i) Catamnestic data were collected as regards diseases that had occurred since the discharge.

(ii) To judge physical development, body weight, body height and chest circumference were measured.

(iii) The patients were tested for mental development.

(iv) The present condition was recorded on the basis of the results of physical examination and laboratory studies (blood counts, erythrocyte sedimentation rate, urine analysys and, if necessary, bacteriological tests).

(v) In view of the earlier severe pulmonary disease, special attention was devoted to the control radiographic studies.

Results and Comments

Ad (i) The catamnestic data collected from the parents showed that after recovery from the staphylococcal pneumonia upper respiratory infections were frequent (in 56 cases of 92 i.e. 60.8 per cent). It was even more striking that 21 patients (23 per cent) had pneumonia, once or repeatedly, in the period between the discharge from hospital and re-examination. The 21 patients had pneumonia 42 times. One patient underwent unilateral lower lobectomy because of extensive bilateral bronchiectasis.

Ad (ii) Physical development, as judged from body weight, height and chest circumference, was practically normal.

Ad (iii) Mental development was unimpaired.

Ad (iv) Physical examinations and routine laboratory tests revealed no major pathological changes.

Of those reporting for re-examination 17 (18 per cent) showed in the chest X-ray opacities of trabecular structure, often extensive and suggestive of bronchiectasis, mostly in the lower lobe. It must be noted that only a few of those patients had pneumonia after they had been discharged. It was only in 5 cases that a parietal shadow representing a callus was observed, i.e. in 5 per cent, as compared with the 53 per cent at discharge. These findings confirm the view put forward by Heberer et al. [3] that the strips of shadow claimed at discharge to be a callus are usually due to a residual effusion that is later absorbed in most instances. Although measurement of the chest circumference indicated some asymmetry in a few cases, radiological evidence of a slight retraction was obtained in one patient only. A residual cavity was found in none of our cases. The development of bronchiectasis following staphylococcal pneumonia has been mentioned also by Wilson [5]. It seems that bronchiectasis is the anatomical substrate of the tendency repeatedly to develop pneumonia after recovery from the staphylococcal disease.

Summary

A total of 121 patients discharged after recovery from staphylococcal pneumonia in the period 1955—1958 was subjected to re-examination. Of those asked to report, 76 per cent did so. No impairment of physical and mental development has been noted. Of the residual changes recorded at discharge those ascribed to callus disappeared almost without exception and all of those attributed to cavities have disappeared. However, these patients had a remarkable tendency to develop pneumonia, in excess of the general morbidity rate. It is suggested that the cause of this disposition may be bronchiectasis, that seems to follow staphylococcal pneumonia in a high percentage of the cases.

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