TENSION PNEUMATOCOELE COMPLICATING SEVERE CAVITATING PNEUMONIA IN AN INFANT: A CASE REPORT

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SUMMARY

A case of pneumatocoele formation complicating severe cavitating pneumonia in a neonate is presented. Conservative surgical treatment of the pneumatocoele resulted in dramatic improvement emphasising the adequacy of less extensive procedures in the surgical management of cystic pulmonary lesions.

CASE REPORT

A two-week-old male neonate was admitted to a district hospital with a short history of poor feeding, rapid grunting respirations and pyrexia. Bilateral extensive consolidation was noted and the patient was transferred to a general hospital for further management. On admission, the neonate was obtunded with tachypnoea, pyrexia and extensive crepitations in the chest. Chest radiographs (Fig. 1a) showed widespread patchy consolidation with several cystic areas. A diagnosis of cavitating pneumonia was made. Bronchial aspirates grew Klebsiella species.

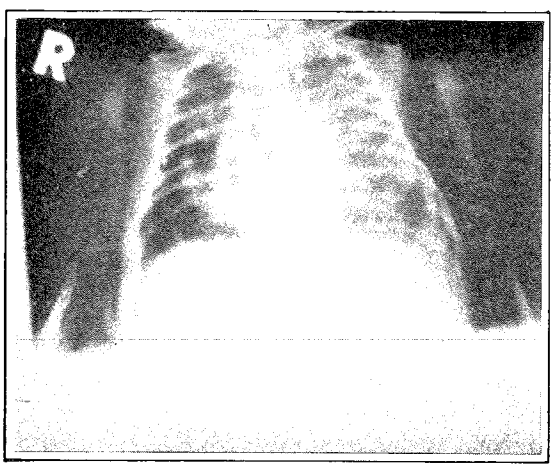

Fig. 1a Widespread patchy consolidation with several cystic areas seen in a chest radiograph.

Meanwhile, intensive therapy resulted in great improvement and the infant was discharged well on the fourteenth hospital day. Follow-up at one month after discharge revealed one medium size and two small pneumatocoeles in the right mid and lower zones respectively on radiography (Fig. 1b). As there was no respiratory embarassment and as the child was developing normally, the parents were advised periodic reviews but defaulted.

The next visit at four months of age was

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because of intermittent wheezing, slow weight gain and crepitations in the chest. Clinically, there was extremely poor air entry in the right chest. Chest radiographs showed a large pneumatocoele occupying most of the right lung field and compressing the mediastinal structures (Fig. 2a). In view of this, the child was referred for surgery.

At surgery, a large tense cyst replacing the whole apical segment of the right lower lobe and occupying almost the whole of the right pleural cavity at the expense of mediastinal displacement and collapse of the rest of the right lung was found. The cyst was marsupialised and feeding bronchioles closed resulting in complete re-expansion of the collapsed lung. Postoperatively, there was marked improvement and excellent catch up in growth and development. Presently, the child is perfectly normal, the latest chest radiograph showing an insignificant residual pneumatocoele on the left side (Fig. 2b).

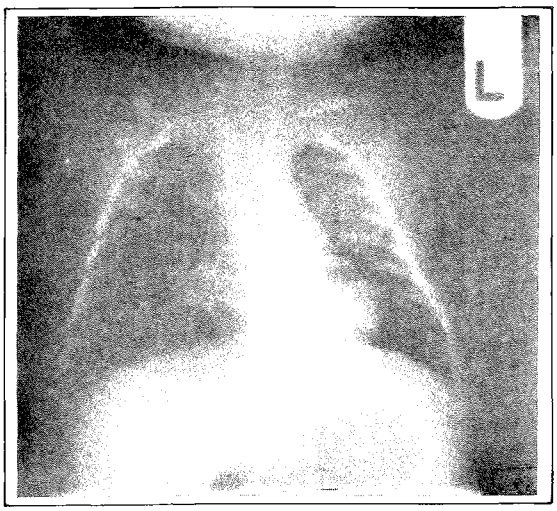

Fig. 1b Chest radiograph after one month showing various sizes pneumatocoeles in the right mid and lower zones.

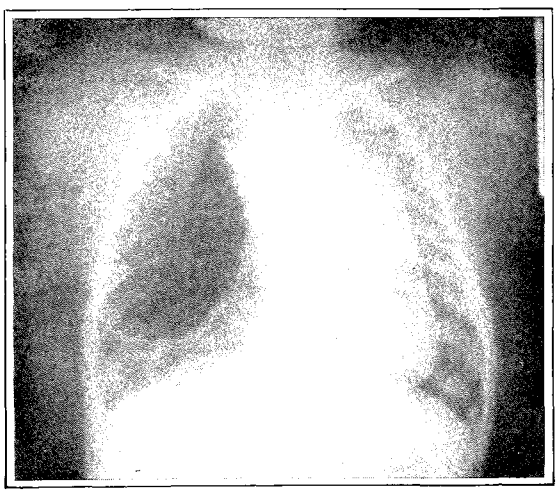

Fig. 2a Chest radiograph at four months showed large pneumatocoele in the right lung field.

DISCUSSION

Severe cavitating pneumonia with *Klebsiella* in infancy carries a high mortality.[1] Those who survive often suffer from a host of complications like parenchymal lung disease with fibrosis, pneumatocoele formation, bronchiectasis and emphysema. With pneumatocoele formation, significant respiratory compromise consequent upon mediastinal shift and compression of normal lung tissue may ensue. As lung growth in childhood continues right up to adolescence,[2] it would imply that undestroyed lung tissue would have great potential for multiplication and maturation. Hence, we feel that in the surgical management of pneumatocoele and the spectrum of cystic pulmonary lesions, conservation of as much

Fig. 2b Postoperative radiograph shows insignificant residual pneumatocoele on the left side.

normal lung tissues as possible should be encouraged. Even up to the present day, lung resection is errorneously advocated for large discrete cystic lesions.[3]

We feel that by marsupialising large cysts and suturing off the feeding bronchioles, as exemplified by this patient, we are able to conserve atelectatic normal lung. This more logical and gratifying operation of marsupialisation of the cyst is a more superior alternative as it gives the remaining lung tissue a chance to continue its normal growth. We would like therefore to encourage its use in the hope that marsupialisation will ultimately become the treatment of choice when surgery is indicated.

REFERENCES

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[3] Schneider J T Sr, Cyr J A, Thompson T R, Johnson D E, Burke B A, Foker J E. The changing spectrum of cystic pulmonary lesions requiring surgical resection in infants. *J Thorac Cardiovasc Surg* 1985; 89 : 332–300.