a more general trial, for I have confidence that if it be freely used in rheumatic and other forms of streptococcal endocarditis it will very greatly lessen the incidence of valvular disease in these cases.

The following brief notes of cases illustrate the method.

Case 1.—In a case of obstinate chorea in a girl of 8 years, 10 grains of sodium sulphocarbonate were given every two hours. In a few days complete muscular relaxation suddenly supervened. Treatment was stopped. Rapid and complete recovery ensued.

Case 2.—A child, aged 6, with acute otitis media and threatened involvement of the mastoid. Ten grains of sulphocarbonate, given every two hours except at midnight, and 2 and 4 a.m. After sixteen doses complete muscular relaxation supervened. The drug was stopped. There was complete cessation of inflammation of membrane and the external meatus, but pneumococcal inflammation of the tympanum persisted, and two days later incision of the membrane brought about rapid recovery.

Case 3.—A girl, aged 8, suffering from endocarditis after scarlet fever, and symptoms of streptococcal blood infection, was given $7\frac{1}{2}$ grains of the drug every two hours. In a fortnight she became pallid and listless and the drug was stopped, although the temperature had not come down to normal. After a week's interval it was recommenced in 6-grain doses every two hours, but in a few days the temperature became subnormal. The drug was stopped. The child made a perfect recovery, and had no recurrence.

Case 4.—A girl, aged about 14, was admitted to hospital with rheumatic swelling of most joints, a temperature of 103°, pericarditis, a recent valvular murmur, pneumonic consolidation in one lung, and choreic movements. Sodium sulphocarbonate, 20 grains every two hours, and the usual raw meat feeding were commenced immediately. Rapid improvement set in, and she made a good recovery.

Case 5.—A boy, aged 14, was recovering from pneumonia following double mastoid operation after measles, when acute rheumatism supervened. After a few days acute carditis set in, with alarming heart weakness, pulse of 148, no sounds at the bend of the elbow when using the sphygmomanometer, followed in twenty-four hours by the appearance of a mitral systolic murmur. Sodium sulphocarbonate in 20-grain doses every two hours was commenced within twenty-four hours of the onset of the cardiac symptoms. A rapid and continuous improvement resulted. The murmur disappeared in a fortnight and the heart became normal. The patient was kept recumbent for six months as a precaution, and suffered no cardiac disability afterwards.

Summary.

1. By the administration of sodium sulphocarbonate in sufficiently large doses it is possible to arrest certain types of streptococcal blood infection.

2. To attain this end the drug must be given in such a manner as to cause the early symptoms of carbolic acid poisoning.

3. The symptoms which must be watched for are: (1) feebleness and want of tone of the voluntary muscles. In children this may come on so suddenly as to amount to the complete muscular relaxation characteristic of accidental carbolic poisoning. (2) General malaise and debility. (3) A subnormal temperature. In some cases the temperature curve is not only subnormal, but also remarkably free from the usual variations.

4. When any of the above symptoms of carbolic poisoning appear it may be taken for granted that the streptococcal blood infection has been arrested by the action of the carbolic; clinical experience with this mode of treatment demonstrates this as a fact.

5. As soon as any symptoms of carbolic poisoning appear the sodium sulphocarbonate should be stopped immediately. In many cases there is no need for a repetition of the treatment, and convalescence is uninterrupted from this point onwards.

6. Sometimes it is necessary to repeat the treatment after an interval of some weeks or months.

7. The voluntary muscles seem to be more susceptible to the action of carbolic than the heart muscles, and there appears to be no risk to the patient so long as the drug is stopped as soon as muscular weakness begins to develop.

8. Carboluria has never been observed by me, even in cases where an adolescent continues to take 20 grains of sodium sulphocarbonate every two hours for three months or more. Nevertheless it is advisable to watch the urine regularly for this symptom.

9. For an adult 20 (or even 25) grains should be given every two hours in an urgent case, such as one where streptococcal endocarditis is threatening. In a less urgent case three out of twelve doses may be omitted—namely, those at midnight, and 2 a.m. and 4 a.m. In an adolescent

of from 14 to 16 years of age the dose should be 15 to 20 grains every two hours. In a child of from 6 to 10 years of age 8 to 10 grains can be given every two hours.

10. An important point is that the treatment should begin with a maximal dose. If at the commencement of treatment a small dose only be given the body appears to become accustomed to the drug, and it may be difficult subsequently to get the desired effect on increasing the dose.

11. In some cases of chronic streptococcal infection, where, presumably, there are streptococci in situations where the circulating fluids of the body do not easily reach them, the treatment may have to be persevered with for two or three months.

12. In patients with chronic non-pyrexial streptococcal infection who are taking 20 grains of sodium sulphocarbonate every two hours without any symptoms of carbolic saturation a gradual improvement in general condition and a somewhat rapid gain in weight may be noticeable.

13. With this treatment it is always well to combine raw meat feeding, 4 to 6 ounces being given daily. If worked through a brass wire sieve of one-sixteenth of an inch mesh with a porcelain pestle it is easily treated and flavoured so that the patient is unaware that raw beef is being eaten.

14. In my hands this treatment has proved wonderfully reliable, but it is possible that in certain states of the body the sulphocarbonate may not be decomposed in amounts adequate to bring about the cure of the streptococcal infection.

15. Whenever there is good reason to suspect the presence of vegetations upon the endocardium or the cardiac valves, the cessation of the inflammation which this treatment can almost invariably bring about is almost certain to result in exfoliation of the vegetations, and death from cerebral embolism. In such cases the cure of the streptococcal infection causes the death of the patient more speedily than would be the case if the disease were allowed to run its natural course, and it should not, therefore, be attempted. In these cases, even though the dose of the sulphocarbonate be so small that the temperature does not begin to approach normal till after three months of treatment, death from cerebral embolism is nevertheless extremely liable to occur just when success seems about to crown the physician's efforts.

TWO CASES OF HYDATID DISEASE OF THE PLEURA.

BY

FRASER M. ROSE, M.B., CH.B.ED.,

RESIDENT SURGICAL OFFICER, PRESTON ROYAL INFIRMARY.

In view of the comparative rarity of this condition and the absence of the disease, so far as my knowledge goes, from this locality, the two cases here recorded, occurring simultaneously in the Royal Infirmary, Preston, may prove of interest.

CASE I.

A married woman, aged 47, admitted on March 26th, 1927, was born in Preston and has lived there all her life with the exception of four years (1889-93) spent in Bolton. She has worked as a spinner in one mill in Preston since 1893. No dog has ever been kept in her house, nor has she had any association with dogs except that she was bitten by one three or four years ago. Her skin has always been of a dark colour. She stated that she had been quite well until November, 1926, when she slipped down some steps and hurt her back and right side. The following day she had pain in the right side and epigastrium and began to vomit. The vomit consisted of food, and later clear fluid, and relieved the pain. This sequence of pain and vomiting continued off and on down to admission, and most of this time she was confined to bed. She was considered to be suffering from gall stones.

For about a week before admission she had pain in the region of the right scapular angle and in the right side of the chest; cough without much expectoration developed, and vomiting continued.

On admission the temperature was 99° F., pulse 138, respirations 52. The skin was dark brown. The usual signs of the presence of fluid in the right side of the chest were found, with well marked tubular breathing over the upper part of the right lung and in the axilla. Greyish-brown pus, rather thin in consistence, was aspirated. It contained a preponderance of streptococci with staphylococci and pneumococci. Hooklets were not looked for and not found.

I operated on the day after admission (March 27th). A portion of the eighth rib on the right side was resected and there was

a free flow of pus containing a very large number of cysts of various sizes and portions of the thickened wall of a large cyst. The original opening was then enlarged and the pleural cavity washed out with saline and more echinococcal material removed. A large rubber drainage tube was sutured in. Numerous hooklets were discovered on examination of the pus and fluid contents of the cysts.

Recovery was, on the whole, uneventful. During the earlier weeks the cavity was washed out daily with eusol. On one occasion hydrogen peroxide was substituted, and alarmed the patient by bubbling out of her mouth. The pulse remained rather rapid, and the temperature rose occasionally to 100° F. She was discharged on June 3rd, having been well healed for over a week; she had good movement of the right lung, and breath sounds were heard moderately well. Her general condition was excellent. After the first few days she was moved to a balcony, where she remained until discharge.

CASE II.

A married woman, aged 45, admitted April 12th, 1927, had lived in Preston all her life. From 1892 to 1916 she worked as a ring-spinner in various mills. During the last six years she had kept a dog which she got as a puppy from a local farm. She had always been somewhat dark skinned. She stated that she had had "smothering bouts," accompanied by sweating, at the age of 39, when the menopause occurred, but these symptoms had not been present for two or three years. She said that she was treated for right-sided pleurisy twelve months ago, but was not needed. She had had some pain in the side and back ever since.

About the middle of March, 1927, she had an attack of influenza with cough and pains "all over." A week before admission the pain settled in the right shoulder and she coughed up some jelly-like material streaked with blood. When admitted the usual signs of a right-sided empyema were present. Aspiration of the chest revealed pus of the same nature as in Case I, and the same organisms were present. She refused operation and went home on April 21st, but was readmitted for operation on April 26th.

Mr. McKerrow operated on April 27th, and an identical condition to that in Case I was discovered. In this case the chest cavity was not washed out, but was drained in the same way as the other. Hooklets were again found. After operation discharge was free, but later diminished. Shortly after operation she had some muco-haemorrhagic expectoration which also contained hooklets. Down to the seventeenth day the temperature rose occasionally; 100.6° F. was the highest recorded, but it has remained normal since. She is still being treated in hospital.

In both these cases x-ray photographs of chest and abdomen were obtained about a month ago, as well as a screen examination. In both cases fixation of the right vault of the diaphragm and shadowing of the right lung, particularly the base, were seen. No further evidence of cysts was found.

A blood examination of both cases at this time revealed no eosinophilia. A point of special interest is the parallelism in sex, age, occupation, site, and character of the disease. The two women have never met, live in different parts of the town, and obtain their food supplies from entirely different sources.

I am indebted to Mr. K. M. Duncan, F.R.C.S., and Mr. W. A. H. McKerrow, F.R.C.S., for permission to publish these cases.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

GENERALIZED PNEUMOCOCCAL INFECTION: RAPID DEATH.

Dr. Poston's description (June 18th, p. 1098) of a case of acute lobar pneumonia in which the whole course of illness lasted only nine and a half hours, is interesting, and prompts me to record the following case as illustrating the great rapidity of a pneumococcal infection.

On March 29th last I was called in consultation with Dr. B. to see a patient—a man of middle age—suffering from lobar pneumonia. The crisis had been somewhat delayed, but otherwise there was nothing of particular interest about the case. His wife had undertaken the entire nursing of her husband, and I urged her to employ a professional nurse, as I was afraid that the heavy work entailed might have a deleterious effect on her health. When I made this suggestion she laughed, and said that nothing was likely to have a bad effect on her health, as she had never had a day's illness in her life, and was known to her friends to be almost proof against disease. She agreed, however, that in the interests of her husband professional assistance with the nursing should be obtained, and the nurse was duly installed within a short time of my visit.

A few days later the doctor again requested me to go to the same address, when I was not a little surprised to find that

this time the patient was the wife. Her illness had commenced less than twenty-four hours before my visit. On examination definite signs of lobar pneumonia were found at both lung bases, the right knee-joint was swollen and contained fluid, and the left knee was painful and tender. The right knee-joint was aspirated, and was found to contain pus which, when bacteriologically examined, proved to be pneumococcal. Within twenty-four hours I was again called to see the patient, but she had died a few minutes before my arrival. Considerable effusion had taken place into both knee-joints, and peritonitis had also developed.

The whole course of this patient's illness had lasted less than forty-eight hours, during which time both lungs had become affected, both knee-joints, and the peritoneal cavity.

This case illustrates, I think, the rapidity with which the pneumococcus may work, and with such virulence that it can break down all resistance in the body, even in an apparently previously healthy individual. The course of the disease in the case recorded was so short that full investigation was not possible, but it seems unlikely that the strain of pneumococcus was Type I; possibly it was Type III, which, although the cause of a smaller percentage of cases, nevertheless gives rise to a high mortality on account of its extreme virulence.

J. BROWNING ALEXANDER, M.D., M.R.C.P.

London, W.I.

DEATH FROM QUININE POISONING.

THE following case is unusual, and should, I think, be put on record. A pale, stout lady, 50 years of age, came to the seaside for a restful holiday. Just before her death she stated that in order to ensure sleep she had taken a large number of tablets of quinine. When first seen she was in a state of collapse, with bad colour and very feeble pulse. It is estimated that she took forty-eight 5 grain tablets of quinine bisulphate, presumably continuously during the night. She rallied a little with restoratives, but died while the stomach was being washed out.

The *post-mortem* examination revealed no signs of organic disease. The coroner gave a verdict of death due to heart failure, the result of taking a large quantity of quinine. Two hundred and forty grains is certainly a large dose to be taken in a few hours, but I can find no reference to a death from quinine poisoning in my standard works on toxicology.

Broadstairs.

H. M. RAVEN, M.R.C.S., L.R.C.P.

PREGNANCY ALTERNATING IN THE HORNS OF A UTERUS DIDELPHYS.

CONGENITAL defects of the uterus to the extent of independent development and complete absence of fusion of the Müllerian ducts, with the subsequent occurrence of pregnancy, have frequently been recorded. In many instances, however, atresia in some part of the cervix or vagina, of one or other side, only allows of the development of a fertilized ovum in a single horn, so that when evidence is found, at operation, of pregnancies occurring at intervals in each horn of a double uterus such a case becomes worthy of description.

A married woman, aged 27, was brought to the Swansea General Hospital by Dr. D. B. Harrington on December 27th, 1926. She had reached term in her second pregnancy, having been delivered four years previously by Caesarean section of a stillborn male child weighing 10½ lb. Operation had been withheld in this instance until labour had been obstructed for a period of four days.

On abdominal examination the fundus was found to be at the level of the xiphoid process and directed towards the right side. Foetal heart sounds were audible. A mass was palpable above the pubis to the left of the middle line. The vulva was normal in appearance, but vaginal examination disclosed the presence of two distinct passages, each containing a normal cervix and external os, separated from one another by a lax median septum. Both cervixes were softened and the external os upon the right side admitted one finger.

Labour was allowed to continue, and eventually the membranes ruptured, but the head did not descend. On December 28th, as the patient was extremely anxious for a living child, an abdominal Caesarean section was decided upon. Laparotomy revealed a condition of complete uterus didelphys with a well marked fold of peritoneum, or vesico-rectal ligament as it is termed, occupying the deep fissure between the horns.

The left horn, which was of a size corresponding to a three months' pregnancy, exhibited, on its anterior surface, the scar of a previous Caesarean section. From the right horn a living female child, weighing 6½ lb., was delivered. Permission to sterilize the