

I have found that in corridors as well as in rooms a uniform scheme of decoration can be easily followed by making the lower floors of a very light shade of color in the rooms, say green, in its various shades, and darkening these colors by a shade or two in the higher stories, making a progressive color scheme. Since most of the daylight would be in the upper stories, even under this condition, these upper stories should be extremely light in color without having a glare.

The corridors could best be treated for the lighting effect in the very light tans or chromes.

REFRIGERATION

In smaller institutions, especially those having about 150 beds, mechanical refrigeration can be installed so that the main refrigerators and the small diet-kitchen boxes could be run from such a plant and sufficient ice for ordinary purposes could be made.

There are small plants now made which are very economical and which fulfill every requirement at a cost about equal to that for icing a number of boxes and with much less inconvenience and considerably less dirt and disturbance.

The brine system is the only one which can be practically used in boxes as widely distributed as they are in a hospital. Ammonia expansion is not particularly adapted to places where it is liable to do the harm that a leak in a pipe would cause in a hospital. The brine system should be installed in such a manner so that it would be necessary to operate the machine for cooling the brine from six to eight hours only, with a small auxiliary pump to keep up the circulation when the main pump was not working.

EQUIPMENT IN CONSTRUCTION

I need not dwell on the vacuum cleaning systems and the general equipment of kitchen, laundry, sterilizing-room and morgues. The general equipment of the toilet and bathrooms and of the service-rooms for the nurses have been mentioned. In reference to special equipment, attention is directed to the necessity for bed-pan sterilizers and specially constructed bed-pan racks in all service-rooms on each floor.

In the main kitchen there should be a large steam table, and in the diet kitchens smaller steam tables with combination gas stove so that food may be served at all times hot and palatable.

The equipment of diet kitchens varies so that no definite details can be given, but an arrangement of plan and equipment that has been used considerably and has been very successful is to place the equipment on one wall and a long table in the center of the room for the make-up of the trays. This table has racks underneath so that trays can be made up ready for the food at convenient times.

The ordinary sterilizing apparatus for the sterilizing-room is familiar to all, but the arrangement can be obtained by having the preparation table and sink and the sterilizers with the small supply-room to which the house nurses go to get their supplies, without the necessity of going through the operating-rooms or into the sterilizing-rooms.

The pathologic laboratory should not be left to chance; that is, provision should not be made for every thing else and the laboratory put in the space left, if any. The laboratory is one of the most important features of well-planned and properly-conducted hospitals.

In the general arrangement of the hospital provision should be made that the matron and superintendent should have each a private suite of bedroom, office and bathroom. There should also be provided trunkrooms and storerooms, the latter for the storing of quantities of supplies to get the advantage of price.

The matter of linen-rooms, chartrooms and space for carts should also be given consideration.

84 La Salle Street.

AN EPIDEMIC OF ACUTE ANTERIOR POLIOMYELITIS

OCcurring IN SALEM, VA., AND VICINITY

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SALEM, VA.

During the past summer there occurred in Salem, Va., and the adjacent country a small epidemic of anterior poliomyelitis. The first case developed June 2 and the last one reported to the Board of Health was August 10. Some time previous to this outbreak the weather had been intensely hot, while the prevailing humidity was high. After several cases had developed they were reported to the State Commissioner of Health, and he was asked if the disease was prevalent elsewhere in the state. Singularly enough, he reported that it was not reported from any other locality. Just why this town and the adjacent territory were visited by this epidemic we are entirely unable to explain, as the authorities do not class this as a contagious disease, and, so far as we are aware, there were no local conditions which might have produced this epidemic, outside of the intense heat and high humidity, which, however, obtained generally in this section of the state. Neither did this epidemic follow in the wake of an epidemic of any acute infectious disease, as is sometimes the case. There were twenty-five cases in Salem and the adjacent country, a strikingly large number; whereas Roanoke, a city of about 35,000 inhabitants, seven miles east of Salem, connected by a trolley line, and daily visited by scores of Salem people, escaped, as we are informed by the Roanoke health officer, with only a single case, occurring in September, quite a while after the development of the last one of our cases.

The reports in some of these cases are not so full and complete in detail as we would desire, because in some cases the attending physicians did not record notes and, therefore, were able only to recall the main points in each one. The main purpose of our paper is to call attention to the occurrence of such a large number of cases of this disease, practically amounting to an epidemic, which, so far as we know, is without precedent in this section of Virginia.

Authorities are not agreed whether the disease is of microbic or toxic origin, although in our opinion it is due to a specific organism. We regret our inability to shed any new light on the obscure points in this disease, either as regards etiology, pathology or treatment, but we hope by this report to evoke an interest in, and a discussion of, this subject.

REPORT OF CASES

REPORTED BY DR. J. P. KILLIAN, SALEM, VA.

CASE 1.—The patient, male, was aged 3; family history good. The physician was called June 19, 1908. The patient was prostrated; the pulse was rapid, the temperature 103, the left arm partially paralyzed and the left leg entirely so. This

condition continued for about ten days; then the patient began to improve slowly, and in three weeks was able to walk by dragging the leg, and now, after nine weeks, is able to walk very well.

CASE 2.—The patient, a boy, aged 3½ years, was first visited June 27, 1908. His temperature was 104. He had a severe headache and rapid pulse; his left leg was completely paralyzed. Within a few days the fever disappeared and the patient began to improve. Now, at the end of nine weeks, the patient can walk across the room.

CASE 3.—The patient, a boy, aged 3 years, had partial paralysis of the right arm and the right leg. The patient has made perfect recovery in eight weeks.

CASE 4.—The patient, a girl, aged 2 years, had partial paralysis of the left leg and the left arm. This was a mild case, with apparent complete recovery.

CASE 5.—The patient was a girl, aged 14 months. The physician was called August 16. The patient's temperature was 101, pulse 120, with complete paralysis of all the limbs. This case had a fatal termination on the tenth day, as the result of the involvement of the respiratory center, which became manifest on the sixth day of the disease.

REPORTED BY DR. J. L. STEARNS, SALEM, VA.

CASE 6.—The patient was a girl, aged 18 months. The physician's first visit was June 2, 1908. The child had paralysis of the left leg and retention of urine, and evinced great pain when moved. The temperature was 103. On August 24 the patient showed gradual improvement, as she could move her leg, though she was not able to walk.

CASE 7.—The patient, a girl, aged 2 years, was unable to walk or stand alone at the physician's first visit, and suffered pain when moved. The temperature was 102, and there was difficult urination. This was a case of partial paralysis of both legs, with full recovery.

CASE 8.—The patient was a boy, aged 18 months. This was a case without special interest, in which both legs were paralyzed. One leg has regained its function, but the other remains almost entirely paralyzed.

REPORTED BY DR. SAMUEL M. TERRILL

CASE 9.—The patient, a boy, aged 4 years, was first visited July 13, 1908. He then had pain in his head, nausea, profuse sweating and mild fever. Next day his temperature was 104, and he had pain in his head, back and limbs. On July 15 his temperature was 105, with continuance of severe pains in his head, back and limbs. The child was slightly delirious. On this day it was first discovered that all the limbs were partially paralyzed, and there was a complete right-sided facial paralysis. The fever and pain subsided in a few days, and in ten days from the onset of the disease there began a gradual recovery from the paralysis of the limbs, which at this time has completely disappeared, though the facial paralysis still exists to a noticeable degree.

REPORTED BY DR. S. I. CUNDIFF, HOLLINS, VA.

CASE 10.—The patient, a girl, aged 2½ years, white, had had none of the infectious diseases, and prior to this attack had been perfectly healthy. Her temperature was 103; there was vomiting, general malaise, and profuse sweating. On the second day diarrhea developed, lasting three days. The child was extremely sensitive to touch or any movement of the body, and preferred to lie quietly in bed. On the fourth day paralysis of both legs developed. The temperature returned to normal on the seventh day. The child had retention of the urine beginning with paralysis and lasting four or five days. The acute symptoms lasted ten days, since which time there has been a gradual improvement.

CASE 11.—The patient was a boy, colored, aged 3, with a previous history of uniform good health. The attack was ushered in by headache; the temperature was 102; there was vomiting, pain in the head, back and limbs, with a decided objection to being moved. On the fifth day the patient developed a paralysis of both legs; one eye and corresponding side of face were also affected. The paralysis of the legs has improved to the extent that the boy can walk, but with a staggering gait, which, however, is greatly lessening. The

paralysis of the rectus externus, however, shows no improvement.

REPORTED BY DR. J. C. DARDEN, SALEM, VA.

CASE 12.—The physician was called July 1 to see a boy, aged 3½ years, who had been complaining for three or four days. The patient was suffering from pain in the spine, head and limbs, and the skin was sensitive to the touch. The temperature was 102. The child had no desire to eat and had vomited a few times. There was profuse sweating. A slight limping was discovered in the right leg. Two days later the right leg was completely paralyzed and the left leg slightly involved. Further than this the paralysis did not extend. Within two weeks the child began to move the toes of his right foot, and since that time there has been a slight but gradual return of the use of the paralyzed muscles. The patient is at the present time able to walk unaided, though there is some drag of the right foot.

CASE 13.—On August 6 the physician was first called to see a girl aged 16 months, white. The parents said that the child had been feverish and fretful for three days, and the day previous to calling me they had noticed that she could not walk as well as usual. The temperature was 101, the tongue coated and the bowels constipated. There was considerable sweating. The child cried when touched, and objected to being turned over in bed. The left leg and thigh were completely paralyzed. Within a week the fever subsided, and twelve days from the onset of the disease the child was able to flex her toes. During the succeeding week she could move her leg. At the present time she can walk by the aid of her mother's hand, but the affected muscles are very weak and considerably atrophied.

REPORTED BY DR. R. M. WILEY, SALEM, VA.

CASE 14.—The patient was a boy, aged 3. The physician was first summoned on June 26, 1908, because the child had been complaining a few days before, and could not now walk. Complete paralysis of the left leg was present at this time; the temperature was normal, though the patient had no doubt had fever previously. The child had pronounced hyperesthesia when moved, and begged not to be disturbed. When lifted, his head would fall back, showing a loss of power in neck muscles. In course of two and one-half weeks he began to show improvement; could move his leg and hold it up. He suffered a relapse July 26, and again the leg was paralyzed. In the course of a week he regained use of leg and on August 10 he had been walking, but with a decided limp.

CASE 15.—The patient, a boy, colored, aged 4, was first visited July 4, 1908. The child had then been sick a day or so. He complained of headache, backache and pain in the limbs; had vomiting and moderate fever. Paralysis of one leg developed on July 7, and the next day the other leg was paralyzed, and the day following both arms were paralyzed. Fever of a high type continued, and the respiration and heart action both became irregular. Both sides of the face and the muscles of both eyes were also paralyzed, showing that the inflammatory process in the cord had extended to the medulla oblongata. In fact, paralysis was so complete that the child could not move either leg or even turn his head or rotate his eyes. Sphincter control was entirely lost.

This patient also showed a characteristic symptom, profuse sweating. In about two weeks from the onset of the disease the breathing improved in character and the child was able to slightly flex his fingers and toes. The prospects for recovery appeared good, but within another week the respiration became more involved, and child died from respiratory failure after surviving four weeks. This case serves as an exception to the statement of Starr, that the prognosis is favorable if the child survives as long as ten days from the onset of paralysis.

CASE 16.—The patient was a girl, aged 3, white. This case proved rapidly fatal; the physician's first visit was on July 17 and the child died on July 19. At the first visit the child had moderate fever, complained of headache, and evinced pain upon being moved. A paralysis of one leg was then evident, and on the second day there was a complete paralysis of all the limbs; respiration was much embarrassed, being irregular and rapid; the heart action was also irregular and rapid.

The child's expression was one of extreme terror. She died on the third day of cardiac and respiratory paralysis. There was in this case a paralysis of the muscles of deglutition as well as of the muscles of the face and eyes.

CASE 17.—The patient was a boy, aged 6, white. This was a very slow case in development; the child had been sick for six days, complaining of general malaise, with a moderate fever, before any signs of paralysis appeared, which was on the sixth day. This consisted of a partial paralysis of one leg. This case was so insidious in its development that the diagnosis of the consultant and myself was typhoid fever. This proved to be a mild case, with complete recovery.

CASE 18.—The patient, a boy, aged 3, white, had experienced none of the infectious diseases of childhood. When first visited, the patient showed moderate fever and complained of general aching. Paralysis of one leg was discovered on the third day. Beyond this the trouble did not extend. A gradual improvement began in two and one-half weeks from the onset, and in a few days the child was able to walk, but even at the present time there is a decided dragging of the affected leg.

REPORTED BY DR. E. W. DAVIS, SALEM, VA.

CASE 19.—The patient was a boy, aged 3, white. This case presented no points of special interest. Both legs were completely paralyzed. The child has recovered from the paralysis with the exception of a slight dragging of the left foot.

CASE 20.—The patient, a boy, aged 3½, colored, affected with partial paralysis of the left leg and right arm, recovered completely.

REPORTED BY DR. W. P. NORRIS, SALEM, VA.

CASE 21.—The patient, a boy, aged 4, colored, had had roseola, but no history of other disease. When first seen he was constipated and languid; his temperature was 102, his tongue white-coated, and his pulse about 110. On the third day paralysis of left arm and leg developed. Recovery is now nearly complete.

CASE 22.—The patient, a boy, aged 13 months, white, was vomiting, had two or three degrees of fever and very restless when the physician was called. The child seemed to improve after first visit, until the fourth day, when paralysis of the right leg came on. Recovery was almost complete in two weeks; is now complete. The patient had had no previous disease.

CASE 23.—The patient, a boy, aged 3, colored, with negative history, when first seen was paralyzed in the left arm. He could not swallow well for two or three days. Recovery ensued in ten days.

CASE 24.—The patient, a girl, aged 2, white, had no history of previous disease. She vomited, was restless, and had high fever. Her bowels were very loose for several days. Fever continued until the fourth day, when paralysis was first noticed, which affected the left arm and leg. No improvement was noticed for six weeks. The child is now much better, but is not completely recovered, and in all probability will never be. It is feared that the leg will never be normal, as there is now indication of atrophy.

CASE 25.—The patient, a girl aged 15 months, white, had a partial paralysis of the right leg. There was complete recovery in three weeks.

ANALYSIS OF CASE REPORTS

An analysis of these cases shows the following points of interest: The disease was confined to children under 5 years of age, except in one case, a boy of six. The youngest patient was 13 months old. There were 7 cases in which one leg was involved, 1 case in which one arm only was affected, 5 cases in which one arm and one leg were paralyzed, 1 case in which one arm and the leg of the opposite side were affected, 6 cases in which both legs were involved, 4 cases in which all the limbs were paralyzed, 5 cases showing bulbar paralysis, and 3 deaths, which shows a mortality of 12 per cent., higher than is commonly attributed to epidemic infantile paralysis, the authorities stating it to be 6 or 7 per

cent. In the sporadic form of this disease fatal termination is said to be a rare occurrence. In all the fatal cases there was respiratory and cardiac paralysis. A feature in many of these cases worthy of note, because it misleads many of the laity, and possibly some of the profession, who have not had experience with this disease, is the extension of the head, which is due to a paralysis of the neck muscles, in contradistinction to the rigid retraction of the head in meningitis. There were 8 cases of complete recovery, and 14 of incomplete recovery. Each of these incompletely recovered patients has shown some improvement, and it is possible that some of them may yet ultimately recover, as it is stated by M. Allen Starr that "as a rule such improvement is likely to go on for two years." A striking feature in a majority of these cases was pronounced hyperesthesia. Another was profuse sweating. The fact that not more than one case occurred in any house, although in many instances there were other children in the family who associated with the affected child, would seem to prove that the disease is not contagious. Following a decided drop in the temperature of the weather, which occurred in the latter part of July, no new cases developed for three weeks, until a return of the hot wave, which occurred early in August, when two additional cases developed on August 6 and 10, respectively, thus apparently sustaining the belief that hot weather is in some way essential to the development of this disease.

TREATMENT

In regard to the treatment, we regret that our colleagues failed to make any report. We ourselves administered salicylates and applied counter-irritation, either in the form of mustard plasters or of tincture of iodine to the spine during the acute stage. The subsequent treatment consisted of ascending doses of potassium iodid to promote absorption in the inflammatory area in the cord, and strychnin in increasing doses to the point of toleration for its tonic effect. We also employed massage, warm baths, and whenever practicable the galvanic and faradic current. None of these patients have as yet developed deformities, consequently we have nothing to report in the way of orthopedic treatment, although we are well aware of the great importance of orthopedic apparatus and of nerve and tendon transplantation in the later treatment of these cases.

MECHANICAL (DYNAMIC) OBSTRUCTION OF THE BOWEL*

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It is not the purpose of this paper even to touch on all of the various phases of intestinal obstruction, but merely to call attention to a few features of this interesting affection. The first is the abuse of purgatives in this condition. Every surgeon has seen deaths caused by the injudicious use of purgatives. There are few things that require more judgment or skill than the correct exhibition of a suitable purgative at the proper time. Certainly in acute infectious diseases or in any case in which a toxemia is primarily present, a purgative is not only advisable, but absolutely necessary. It is dif-

* Read at the meeting of the Medical Society of Virginia, Richmond, Oct. 23, 1908.