Some stout persons, in whom the thick layer of fat diminishes the amount of heat given off by radiation and conduction, are much troubled by abundant perspirations. These make the sufferer lazy, and thus tend to increased obesity and perspiration.³⁶ Hyperidrosis of the axillary regions frequently causes women to wear impervious shields, in order to protect their dress from unsightly stains. The shields, however, encourage the retention and decomposition of the secretions, and thus provoke irritation of the skin and further hyperidrosis. Many dermatologists have attributed pompholyx or dysidrosis to disorder of the sweat apparatus, although the matter is still *sub judice*. But, in any case, the associated itching and scratching are both cause and effect of the disorder. As Brocq says:

The patient complains of intense itching and burning. The more he scratches himself the more numerous and the larger do the vesicles become. They seem almost to develop under the fingers at the itching spots as these are being rubbed.³⁷

Retention cysts of the sweat glands may be due to a circle, much as happens in the case of other glands. Owing to its narrow lumen some obstruction or kinking of the sweat duct is readily brought about, leading to accumulation of sweat and cystic dilatation. This may in turn cause further obstruction and further accumulation, until the cyst reaches a considerable size.

THE BREAKING OF THE CIRCLE.

The question may be asked of this study of vicious circles—*Cui bono?* The reply is that we gain a clearer insight into the methods of *natura medicatrix*, and guidance for rational therapeutics.

Although some circles are, as stated above, "endless" and "incurable," there are many others that can be "broken" by natural processes. For example, kerion results from Nature's effort to cure ringworm. The folliculitis may loosen and expel the diseased hairs with all the attached fungus. In fact, as Sabouraud says: "The curability of tinea tonsurans is in direct proportion to the degree and inflammation of the follicles."³⁸ And again:

The suppurative reaction is a curative process because of its expulsive action. As soon as the diseased hair is expelled the inflammation subsides.³⁹

Even the well-linked chain of reactions associated with varicose ulcers may be snapped. The acute pain may confine the patient to bed. The oedema is relieved, the itching subsides, the excoriations heal. Reparative replace destructive processes. Again inflamed corns may be cured without medical aid. The congestion at the base may proceed to suppuration and the entire mass be thrown off.

Many pruriginous eruptions get well in spite of associated itching and scratching. There may be prolongation of the attack, but the natural tendency to repair triumphs in the end.

Generally speaking, however, disorders complicated by a circle are obstinate and difficult of cure. The aid of the *ιατρος πολυπειρος* is indispensable to recovery. The recognition that a circle is present draws attention to the fact that each of the co-operating hostile forces can be attacked. Such recognition conduces to a surer and speedier victory.

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EPIDEMIC POLIOMYELITIS OCCURRING AT STOWMARKET, SUFFOLK.

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TWENTY-FIVE cases of this disease occurred in Stowmarket between August 12th and September 18th, 1911. There is some evidence to show that other cases existed at an earlier date, but the presence of the disease in an epidemic form was not recognized until the date mentioned, and no record of any such cases has been preserved.

Distribution of Cases.

In three instances more than one case occurred in the same house.

In one house there were 3 cases, the first appearing on August 12th, the next on August 17th, and the third on August 19th. In two other houses there were 2 cases. In one the first case arose on August 26th, the second August 29th. In the other the first case occurred on September 1st, the second on September 4th. Of the other 18 cases the majority occurred in groups in adjacent houses.

Age Incidence.

Five cases occurred in adults. Of the remaining 20, 3 occurred in infants under 2 years old and 12 in children between the ages of 2 and 12 years.

Mortality.

There were 6 deaths. Four died within a few days of the onset of illness from paralysis of respiratory muscles. Two died in the later stages from bronchitis and heart failure.

Climatic Conditions.

The cases occurred in exceptionally hot, dry weather, when there was a great deal of dust and swarms of flies. Whilst inspection of premises revealed no serious sanitary defects, the exceptional drought accentuated what trifling defects there were, a temporary accumulation of refuse, which in an ordinary English summer would have passed unnoticed, becoming offensive and tending to be the breeding-place of swarms of flies.

Measures Adopted to Cope with the Outbreak.

These were (1) compulsory notification; (2) isolation; (3) destruction of flies; (4) watering the streets with antiseptics; (5) all contacts were instructed to spray nose and throat with permanganate solution; (6) householders were warned against accumulation of refuse.

These measures were put in force early in September. The epidemic ceased quite suddenly, the last case being notified on September 18th.

This sudden cessation cannot be attributed to a change in the climatic conditions, since in the rural districts immediately adjoining cases continued to arise until the end of October. No fewer than 32 cases occurred within a radius of a few miles outside Stowmarket after September 18th.

The value of compulsory notification was emphasized, not only from a public health point of view, but also from an economic standpoint. Before notification exaggerated rumours prevailed, panic was created, and the trade of the town suffered in consequence. At the end of August it was stated in the press that there were 30 cases with 6 deaths. Careful investigation at this time showed that there had been 15 cases with 3 deaths. Before notification uncertainty prevailed; afterwards authoritative statements could be made and public anxiety allayed.

Transmission of the Disease.

Probably the disease was transmitted in three ways (1) By dust; (2) by flies; (3) by "contacts," the organism being carried in the nasal mucous membrane.

The sudden cessation of the epidemic on September 18th is curious, and I venture to think important, as it appears to throw some light on the problem of transmission.

To account for the somewhat dramatic ending of the epidemic in Stowmarket, one of two explanations must be accepted: (1) Either the "soil" was exhausted in this particular area; or (2) the measures adopted were efficacious in stopping the spread of the infection.

As against the first assumption, it may be pointed out that there was no gradual "tailing off" in the number of cases which one would have expected on this hypothesis. During the last week (between September 9th and 18th)

9 cases were notified. Assuming the preventive measures were efficacious, it is interesting to consider which was most likely to be efficiently performed.

Flies still swarmed after the epidemic ceased. The spraying of "contacts," although advocated, was not supervised and could not be insisted on. The probability is that this measure was neglected in many instances, and cannot be reckoned as a potent factor in staying the spread of infection. Isolation was observed as far as possible. But in many instances parents refused to send their children to the isolation hospital, only four patients being admitted. The only measure thoroughly and regularly performed was watering the streets with antiseptics, and in this way rendering the dust innocuous. The evidence from this epidemic, therefore, would appear to support the view that dust infection is an important factor in spreading the disease.

Clinical Symptoms.

The symptoms differed in no material respect from those already published in the BRITISH MEDICAL JOURNAL of November 4th, as typical of the epidemics in Cornwall, Huntingdon and Devonshire.

In the majority of cases gastro-intestinal trouble either preceded or accompanied the attack. In one instance amongst my own cases the illness was preceded by tonsillitis. Headache, pain at the back of the neck, furred tongue, vomiting, usually constipation, with some fever, marked the onset of the disease. In bad cases muscular twitching and convulsions occurred, also retraction of the head and spinal rigidity. Paralysis of one or more limbs supervened in from two to three days. Kernig's sign was present in 75 per cent. of the cases. Reflexes were usually abolished with the onset of paralysis. Retention of urine occurred in 10 per cent. of the cases. Pain and tenderness was usually present in the paralysed limbs. In some cases hyperaesthesia was very marked. The paralysis in the majority of instances appears to be permanent.

Bacteriology.

In several cases the spinal fluid was examined, and Dr. Heath, county medical officer of health, has obtained some interesting results, which will be published in due course. Dr. Alice Taylor also worked at the bacteriology of the disease, and her results appeared to confirm those of Dr. Heath.

Treatment.

Various drugs were tried, including urotropine, but the course of the disease appeared to be uninfluenced. No doubt with the isolation of the specific organism, and preparation of a vaccine, better results will be obtained.

NOTES OF CASES.

H. D., aged 19. On August 10th suffered from tonsillitis, which passed off in a few days. On August 19th complained of headache, especially at the back of the neck, vomiting, and pains in limbs and back. Temperature 100°. Tongue furred; constipation present. August 21st, paralysis of left arm and leg. Kernig's sign present—paralysis of left arm severe. At the present time, three-and-a-half months from onset, has not recovered full use of arm, and is still slightly lame.

C. O., aged 5, commenced August 19th. Much pain in back of head and down the spine. Retraction of head and spinal rigidity very marked—some twitchings of muscles during sleep. Kernig's sign present; reflexes abolished. Hyperaesthesia of paralysed limbs. The case is interesting, as, although cerebro-spinal symptoms were well marked, examination failed to confirm the diagnosis of cerebro-spinal fever. Patient died of bronchopneumonia after one month's illness.

Mrs. B., aged 40, taken ill September 14th, and moved into hospital. Paralysed in both legs—very complete; no hyperaesthesia. Kernig's sign absent; reflexes absent; temperature from 100° to 102°. Retention of urine for ten days. She died after three weeks' illness from bronchitis and heart failure. Examination of spinal fluid was negative, as far as cerebro-spinal fever was concerned. This patient was certain she contracted the disease from one of her children, whom she said was ill a week before she was, with vomiting and headache. The child was not attended by a doctor, and when seen later showed no paralysis, but this may have been an abortive case.

F. R., aged 4. Commenced with vomiting and headache, and pain in the back, on September 4th. Paralysis of both legs. Kernig's sign present; hyperaesthesia present; constipated. Reflexes absent. Paralysis very complete. At present time there is some slight return of power in the flexors. Examination of spinal fluid negative as regards cerebro-spinal fever.

S. C., aged 5. Seen September 14th. Left leg paralysed. Had had slight attack of headache, pain in back of neck, and vomiting three days previously. Doctor only called in when paralysis noticed. Uninterrupted recovery. Cerebro-spinal fluid negative.

A RECORD OF SOME CASES OF EPIDEMIC PARALYSIS OCCURRING IN HAMPSHIRE.*

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I PROPOSE shortly to narrate 7 cases of acute disease affecting either the spinal cord or the meninges, or both, which I have personally seen between the beginning of September and the middle of November. I have purposely described these cases under the general heading of "Epidemic Paralysis," as in my opinion, although two, at least, may, perhaps, be considered to approximate the description of cases of acute anterior poliomyelitis, even these presented some unusual features. In view of the fact that the county medical officer has asked for a return of all such cases in his area, it is of more than ordinary interest to note that, in addition to the cases mentioned in this paper, I had two other undoubted instances of acute poliomyelitis admitted into hospital within the last six weeks, the date on which this note was made being October 16th, and I know of at least two or three others.

CASE I.

R. B. was taken ill on September 6th, but Mr. Way was not sent for until September 11th, when he found him complaining of great pain in the head and back of the neck, and aching pains and stiffness all over. Weakness of the legs was so great that he could hardly stand. The temperature was 101°. On September 12th the stiffness had increased and the pain concentrated in the back of the head and neck; it was very acute, and the head was very markedly retracted. The temperature was slightly lower. The breathing was hurried and jerky. The knee-jerks were absent. Babinski's sign was absent, but Kernig's sign was marked on attempting to extend the knee on the flexed thigh. The stiffness and pain in the neck muscles rendered the patient unable to raise his head. There was more or less general hyperaesthesia.

On September 13th, when I saw him in consultation with Mr. Way, this condition obtained, but he was evidently much worse. He was perspiring freely all over, was of a dusky, cyanotic colour, and had a rapid and very soft pulse, but no cough; breathing was shallow and very irregular; there was acute congestion of both bases; the temperature was subnormal. There was considerable loss of power in the arms, but no sign of involvement of the facial nerves, and he was fully conscious and able to answer questions, though acutely ill. He died the same evening, apparently from paralysis of the phrenics.

His history was that he had been apparently well until September 6th, when, after a long bicycle ride in the great heat, he felt ill and feverish, and went to bed shivering and complaining of aching in limbs and stiffness.

It is interesting to note that there was a definite history of a similar but milder attack, in which much the same symptoms were complained of a month earlier, from which he completely recovered without medical aid.

CASE II.

The next case was a girl, D. P., aged 6, who a few weeks previously had been under my care for an attack of the gastro-enteritis which prevailed during the hot weather. On September 2nd she had fallen into the river, but her mother had given her a hot bath and wrapped her in warm blankets, and she was apparently none the worse for her adventure.

On or about the September 17th it was noticed that her walking was stiff and her gait somewhat unsteady, and on September 19th she complained of backache, and was apparently feverish and out of sorts. On September 20th the feverish attack was distinct and her eyes were suffused and bloodshot. She complained of no pain except a slight backache, but was unable to turn over in bed.

On September 21st fever still continued and I was asked to see her, but was not told of any of the above symptoms or history, except that she had had a feverish cold. She was always a pale, fragile-looking child. There was nothing to indicate anything of a more serious nature, so I must confess to having been caught napping until I was sent for again on September 25th, when I found her lying on her side with her legs drawn up and her head somewhat retracted, complaining of great tenderness all over, and especially of acute pain in the legs when touched, pain in the back, and inability to raise herself at all from the bed. Any attempt to straighten her limbs caused her to cry out loudly. She could not stand. The knee-jerks were absent. Her temperature was normal; she was not flushed, nor was there any rash. She could not sit up, and began to cry directly she was raised in the bed. There was some delay in performing the act of micturition.

She was removed to hospital, where after a few days her condition began to improve and she could straighten the legs without much pain. It was then found that the peroneal group of the left leg was paralysed. A note on October 16th says that "There is a good deal of wasting of both legs, but she can now move them quite freely and sit up in bed without

* Read before the Winchester Division of the British Medical Association.