

SUMMARY

A case of septicæmia in an infant 6 months old with a clinical picture resembling meningococæmia is reported. Petechial lesions were present. There was also swelling of the left ankle and to a lesser degree of the right knee. Blood culture yielded a pure growth of *Dip. mucosus* (Lingelsheim). No record of any such previously reported instance was found.

Treatment with sulfadiazine and streptomycin was followed by complete recovery. It is doubtful if penicillin, which was given, was of any value, since the organism was found to be penicillin resistant to 1 unit.

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**POLIOMYELITIS: A CASE POSSIBLY
DUE TO INTRACUTANEOUS
INOCULATION***

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So far as we have been able to determine, two cases only have been reported of poliomyelitis in laboratory workers who were exposed to the virus in the course of their work. In one of these, a 26-year old male, the possibility of intracutaneous inoculation was entertained.¹ In the other, a 35-year old female, there was no evidence that the route of infection was by the way of inoculation.²

The evidence for or against any particular route in either of these cases is far from conclusive. The duties of both workers consisted of the grinding of tissues from cases of poliomyelitis in preparation for inoculation into monkeys. In one case¹ a possible portal of entry was provided when a non-infected monkey scratched the worker on the wrist. Following a period of 12 days after the scratch a widespread paralysis appeared and was progressive until death. Poliomyelitis virus was isolated from the axillary lymph nodes of that

arm. The authors suggested that the point of entry was the abrasion. The other case was less conclusive and concerned a non-fatal but paralytic illness which developed 12 days after the patient left the laboratory on a holiday.

In addition, Leake³ has reported a series of 12 cases of paralytic poliomyelitis amongst many thousands who received trial vaccination against the disease. The incidence amongst those inoculated was sufficiently greater than amongst those not inoculated to warrant consideration of the possibility of intracutaneous inoculation as the source of infection. Further, it was postulated by Sabin and Ward⁴ that a cutaneous disruption was the site of entry in the case of a 29-year old male physician who was doing research on poliomyelitis. He was bitten on the finger by an apparently normal monkey, 13 days before the typical picture of an ascending myelitis developed, from which he died four days later. The pathological findings suggested a virus etiology as the basis of the lesions in the central nervous system, and a virus subsequently termed "B" virus, similar in many ways to the virus of herpes, was isolated from the brain and spinal cord. A clinically and pathologically similar disease was then produced in two series of rabbits by the inoculation of the brain and spinal cord of the patient into the first series of rabbits, and in turn by inoculation of the same organs of that group into a second series of animals.

The infrequency of cases such as these prompted this report of the case of a 28-year old pathologist, who contracted poliomyelitis while on the autopsy service of this institute and who was without any known living contacts.

On August 27, 1949, this doctor carried out a post-mortem examination on a 26-year old female who had died 12 hours previously of the bulbar type of poliomyelitis. Following the autopsy, in which the brain and spinal cord were removed, his finger was accidentally punctured by the needle which was being used to close the dorsal mid-line incision. One week later he developed general malaise. In the second week there appeared progressive complaints of severe bilateral frontal headache, which lasted only 12 hours, and lumbar discomfort, which gradually spread into the cervical region. The temperature ranged from 101 to 102°. Lassitude developed and vague ill-defined areas of hyperesthesia were noted scattered over the limbs and trunk. Just prior to admission to hospital, nausea, vomiting, and, finally, urinary retention commenced.

On admission on September 14, 1949, the temperature was 100.2 degrees. The patient was agitated and irritable. All reflexes were hyperactive, and many vague hypersensitive areas of skin were described, as above. Stiffness of the cervical spinal column was moderate and Kernig's sign was moderate bilaterally. The spinal fluid

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pressure was normal, cell count was 250/c.mm., with a predominance of lymphocytes, and the protein content was 150 mgm. %. Three days following admission, moderate weakness of the extensors of the right toes and foot was first noted. A clinical diagnosis of acute anterior poliomyelitis was made at this time. Progress was fairly satisfactory thereafter, and at the date of writing (May, 1950) only minimal weakness of the right anterior tibial and of the right pectoralis groups of muscles persists.

DISCUSSION

Intracutaneous inoculation as a mode of infection in man has been suggested on very few occasions in the field of virus infection in general,^{4, 5} and with even less frequency in the field of poliomyelitis.^{6, 7} Although it is understandably impossible to state with certainty that any one case is without doubt one of intracutaneous inoculation, this case is presented for consideration. The possible incubation period from the day of suggested infection until the onset of the malaise was seven days, and until the onset of the headache and the lumbar discomfort it was 10 days. There were a few days of regression of symptoms before the return of the lumbar discomfort and the progression of the disease, as above described. Paralytic signs first appeared on the twentieth day after the day on which infection is considered to have occurred. The onset of the illness would correspond closely with the infection occurring about the date on which the autopsy was performed. It is unlikely that the infection could occur from a dead body other than in a percutaneous manner. Since in this case conditions existed for such infection, there appears to be a high degree of probability that infection was by the way of intracutaneous inoculation. For this reason, we feel that sufficiently pertinent facts exist in this case to warrant its publication for its informative value in the literature.

In older texts on poliomyelitis the failure of the disease to spread on hospital wards or to nurses or attendants of cases was looked upon as evidence against the spread of the disease by ordinary mechanisms of contagion. It is now clear that in view of the fact that infection with the virus of poliomyelitis is predominantly subclinical, incidences of obvious contagion would hardly be expected as frequently as in the more common infectious diseases. Even in the experimental animal, successful inoculation varies markedly with different routes; intracerebral inoculation is most effective, intranasal instillation comes next, subcutaneous

inoculation is still less effective, and intracutaneous injection of the virus is least effective, of all. In an experiment in which immunization was attempted with active virus, Aycock and Kagan⁸ found that only one of twelve animals receiving multiple intracutaneous injections of active virus developed the disease. In view of these considerations, more importance probably should be attached to the relatively small number of laboratory transmissions of the disease which have been reported.

SUMMARY

A case of poliomyelitis has been presented with a view to its inclusion in the small group of cases considered tentatively to have been contracted via the intracutaneous route.

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SPECIAL ARTICLE

THE LIFE AND OUTLOOK OF THE NATIVE IN SOUTH AFRICA*

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Africans may be divided roughly into two classes—the sophisticated and the unsophisticated.

The more or less sophisticated, town-dwelling Native, who may have a smattering of education, has usually acquired something of the white man's civilization. He knows a little of the importance of personal cleanliness, and he lives under fairly hygienic conditions. Often enough, he apes the diet of the European: but his wages are low; meat, fruit and vegetables are expensive; and, since he knows nothing of food values, he pays no attention to these important items. Unless, therefore, he is properly fed by his employer, he is as prone to nutri-

* Extracts from material kindly supplied by Dr. J. B. Ritchie from his impressions on a recent visit to South Africa.