SUMMARY

1. It is possible that neonatal sciatic palsy occurs more often than is suggested by perusal of the literature: paralysis of a foot may easily be overlooked in the new-born infant; it may be regarded as a temporary paresis due to mild birth trauma; or in later months it may be attributed to poliomyelitis.
2. Eleven cases of neonatal sciatic palsy are reported. Autopsy in one suggested that the paralysis was due to direct pressure on the sciatic nerve before birth.
3. A hypothesis is advanced by which to explain how pressure on the nerve trunk may arise in utero.

The author thanks Mr St George Wilson and Mr P. B. Moroney for access to the records of the Obstetrical and Orthopaedic Departments of Walton Hospital.

REFERENCES


COMMENT BY BRYAN McFARLAND

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In 1948, Fahrni presented to the British Editorial Board of the Journal of Bone and Joint Surgery his article on “Congenital Sciatic Palsy.” On reading it, my attention was arrested by the fact that during a single year, in one hospital where three thousand babies are born each year, Fahrni saw eleven cases of neonatal sciatic paralysis. I could not reconcile this very high incidence with the contrasting fact that during a period of twenty years before 1947, at children’s hospitals with large out-patient attendances, I could not remember seeing one such case. On searching my records, four cases of neonatal sciatic paralysis were found to have attended my department in late 1947 and early 1948, but it was ascertained that all the mothers of these infants had been delivered at the same hospital where Fahrni saw his cases. We inquired at a maternity hospital with an annual birth rate of nearly 2,000 and learned that they had no recorded case of sciatic palsy over the last ten years. A similar answer was received from several other large maternity hospitals in Great Britain. I felt, therefore, that investigations as to the cause of the condition should be pursued before the article was published. Mr Fahrni, who was not wholly satisfied with the tentative explanation he had put forward, could not take part in this inquiry because he had already returned to Canada.

I first arranged examination of all the birth records in the hospital in which Fahrni’s cases were seen. What was the procedure adopted in normal cases and in cases of asphyxia neonatorum? Asphyxia was the constant feature in all his cases of sciatic palsy and it seemed possible that some manner of handling the asphyxiated child might be responsible for the paralysis: for instance, if the same midwife had attended all eleven confinements there was a possibility that she had pinched or slapped the infant in some way peculiar to her. Austin O’Malley who conducted this part of the investigation found that the confinements were not all conducted by the same midwife. He noticed, however, that the routine treatment of neonatal asphyxia included the injection of a certain proprietary drug into the umbilical cord. In the other maternity hospitals where we had made inquiries, a different proprietary drug was so injected.

It may seem a far cry from the umbilical cord to the sciatic nerve but actually the connection is not so remote. The hypogastric artery, coming from the cord, runs into the

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internal iliac artery; and in the foetus this is a larger vessel than the external iliac artery. Below the entry of the hypogastric artery the next branch of any size to leave the internal iliac is the inferior gluteal artery (Fig. 5). If a few cubic centimetres of fluid entered the hypogastric artery it would soon reach the internal iliac, and if it proceeded along the main trunk of the internal iliac it would be scattered among the various branches and the amount of drug at any one point would be insufficient to cause appreciable damage; but if the fluid left the internal iliac by the first big branch it would be concentrated in the tissues immediately supplied by the inferior gluteal artery which includes part of the sciatic nerve, the muscles and the lower half of the skin in the gluteal region—in fact the very zone in which Fahrni found his lesion. This is a comparatively circumscribed zone, and concentration of any injurious drug would be sufficient to damage the tissues. Naturally not every case of
asphyxia neonatorum would develop sciatic palsy; it could occur only when the needle entered an umbilical artery; and even in these cases it could occur only when the fluid containing the drug actually entered the inferior gluteal artery and did not flow quickly past it.

The practice of injecting the particular drug which was suspected was abandoned while tests were carried out by the Department of Physiology and the Department of Pharmacology of the University of Liverpool. New-born kittens were injected; some developed a limp, but the lesion itself was not demonstrated. In another series the drug was injected subcutaneously, and in every case it produced a slough, thus proving that it was injurious to body tissues. It has been planned to inject at birth the umbilical cord of a monster; but this obviously would have to be a very special occasion and up to the present time the occasion has not arisen. Attempts have also been made to demonstrate the course of events in premature still-births but these have failed, not surprisingly, because the necessary flow of blood does not exist. The investigations are fully described by Hudson, McCandless and O'Malley in the *British Medical Journal*, January 28, 1950, page 223.

It would be fair to say that we have not yet complete proof that Fahrni's lesion of the sciatic nerve arises from the injection of noxious drugs into the umbilical cord; and that experimental findings, suggestive as they may be, are not yet conclusive; but there is clinical evidence which may be more important than experimental proof. So far as we can ascertain, the incidence of such paralysis was largely restricted to one hospital where eleven cases occurred within a year; and in the two years that have elapsed since the practice of injecting this particular drug into the umbilical cord has been suspended, no other case of neonatal sciatic palsy has been observed. If further proof is needed, we, in, Liverpool, would be very pleased to give every facility; but for my part I am satisfied.

REFERENCE