ANOMALOUS INSERTION OF THE SCALENUS MEDIUS MUSCLE WITH FOREARM PAIN

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Pain, numbness and paraesthesia felt in the fingers, hand, forearm, or arm are due to a large variety of causes, the elucidation of which may tax the ingenuity of the most astute diagnostician. Variations in the anatomical arrangement of the brachial plexus and related structures are frequent and are often associated with symptoms of this type. I have explored the plexus in a number of these patients and here present briefly the records of three patients whose symptoms were relieved by division of some aberrant fibres of the Scalenus Medius Muscle which were placed anterior to the plexus and inserted on the first rib posterior to the Subclavian Artery (Fig. 1).

These patients had some symptoms in common. They complained of pins and needles and a feeling of numbness in the hands and fingers tending to spread to the forearm. The symptoms often came on at night and woke the patients from sleep. In each case the portion of the Scalenus Medius Muscle anterior to the plexus was partly muscular and partly tendinous. It formed a very rigid aperture through which the lower root of the plexus passed. This aperture was bounded behind by the main mass of the Scalenus Medius, below by the first rib, and anteriorly by the fibromuscular strand.

During sleep it would seem possible for the shoulder girdle to be placed in such a position as to stretch the lower roots of the plexus over this fibrous band, producing ischaemia and sensations of numbness and tingling in the fingers. That such a stretch can be put on the plexus by abnormal positioning of the arm is common knowledge. For instance I have seen a complete but temporary brachial plexus paralysis following a breast operation during which the patient’s arm was tied above her head instead of being held abducted and slightly flexed at the shoulder by a nurse. This paralysis was no doubt a stretch phenomenon produced by ischaemia of the nerve trunks with subsequent physiological paralysis. In some instances, tingling and numbness experienced in the hand may be due to a similar ischaemia of the nerve roots produced by posture during sleep or dropping of the shoulder girdle due to age, atonic musculature or changes of occupation.

Case Reports

J.G., a woman aged 66, complained of pain in the back and shoulder running down the arm to the third right digit. Pain was felt down the inner side of the arm. X-rays of the cervical spine showed no cervical rib. The blood sedimentation rate was 4 mm. in the first hour. One of her supra-spinous ligaments was found to be tender. This was injected with novocaine and she was given physical treatment. Her symptoms cleared up except for the tingling and pain in the medial side of the forearm and fingers. Four months after her first attendance the right brachial plexus was explored. The first thoracic root went through the Scalenus Medius Muscle. As described above there was a portion of the muscle anterior to the plexus but posterior to the Subclavian Artery. This was divided. After operation the patient was completely relieved of her pain.

P., a woman of 25, complained of symptoms for one year. The right arm used to ‘go dead.’ Pain at night used to wake her from sleep. There was pain in the arm with tingling in the fingers,
especially the second and third. There was no wasting and no loss of sensation. X-rays of the cervical spine showed no cervical rib. At exploration of the base of the neck the Scalenus Anticus was divided, and also a strand of the Scalenus Medius behind the artery but anterior to the plexus. Complete relief of symptoms followed the operation. Two months afterwards the patient returned however, stating that she had lost all her troubles for one month but that a little tingling in the hand had returned. This was not nearly so serious nor so extensive as it was before operation and was possibly vascular in origin.

M.P., a woman aged 62, had noticed symptoms for one year. She complained of weakness of the right hand and was unable to do cleaning work adequately. The pain persisted and became worse. During the last year there had been increasing numbness of the finger tips with loss of power of the second and third digits. Physical examination revealed no loss of sensation or any muscle weakness. X-rays show very small rudimentary ribs on either side of the seventh cervical vertebra.

At operation the right side of the neck was explored and the Scalenus Anticus was isolated. A well-defined band from Scalenus Medius anterior to the roots but posterior to the artery was present and was divided. No ligamentous ‘cervical rib’ was present. The patient has remained entirely free from symptoms since the operation.

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**LAY CLINICIANS**

No. 11

*Often when reading a book or play one comes across an excellent description of some disease. Such accounts are always of interest to the doctor and they often show surprisingly accurate powers of observation and clinical acumen. We hope to print some of these 'case records' from time to time and for those who would like to try their hand at naming the author, this information will be given at the end of the extract.*

But as I am now talking of the Time when the Plague rag’d at the Easter-most Part of the Town; how for a long Time the People of those parts had flattered themselves that they should escape; and how they were surprised, when it came upon them as it did; for indeed, it came upon them like an armed Man, when it did come. I say, this brings me back to the three poor Men, who wandered from Wapping, not knowing whether to go, or what to do, and who I mention’d before; one a Biscuit-Baker, one a Sail-maker, and the other a Joiner; all of Wapping, or thereabouts.

The Sleepiness and Security of that Part, as I have observ’d, was such, that they not only did not shift for themselves as others did; but they boasted of being safe, and of Safety being with them; and many People fled out of the City, and out of the infected Suburbs, to Wapping, Ratcliff, Lime-house, Poplar, and such Places, as to Places of Security; and it is not at all unlikely, that their doing this help’d to bring the Plague that way faster, than it might otherwise have come. For tho’ I am much for Peoples flying away and emptying such a Town at this, upon the first Appearance of a like Visitation, and that all People that have any possible Retreat, should make use of it in Time, and begone; yet, I must say, when all that will fly are gone, those that are left and must stand it, should stand stock still where they are, and not shoft from one End of the Town, or one Part of the Town to the other; for that is the Bane and Mischief of the whole, and they carry the Plague from House to House in their very Clothes.

Wherefore, were we ordered to kill all the Dogs and Cats: But because as they were domestick Animals and are apt to run from House to House, and from Street to Street, so are they capable of carrying the Effluvia or Infectious Steams of the Bodies infected, even in their Furrs and Hair; and therefore, it was that in the beginning of the Infection, an Order was published by the Lord Mayor, and by the Magistrates, according to the Advice of the Physicians, that all the Dogs and Cats should be immediately killed, and an Officer was appointed for the Execution.

It is incredible, if their Account is to be depended upon, what a prodigious Number of these Creatures were destroy’d: I think they talk’d of forty thousand Dogs, and five times as many...