

INTENSE NEURALGIC PAIN IN THE ARMS AFTER CHILDBIRTH.

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THIS note is published in the hope that the facts it records may prove helpful to some practitioner. The writer is aware that in publishing it he is trespassing in fields with which he has no direct professional concern, and for this he apologises.

Eighteen months ago (autumn, 1910) the writer was asked by a medical colleague, Dr. A, if he could suggest any anatomical explanation for the occurrence of intense neuralgic pains in the arms after childbirth. Dr. A said that he had met with the condition once or twice in the course of practice, and that his wife, who had given birth to an unusually large boy baby some six weeks previously, was suffering so severely as to be incapacitated from nursing the child. Three, if not four, medical men had seen the patient, and the pains were as bad as ever. The treatment adopted had included the application of belladonna and chloroform liniments, friction with aconite ointment, the placing of first one arm and then the other in a sling, and the confining of the patient to bed. The liniments and ointments had done no good; the slings had given temporary relief; the confinement to bed was only useful so long as the patient refrained from sitting up and from holding the baby.

Mrs. A, age 30, is well known to the writer, although he had not seen her for some weeks prior to the time at which her husband spoke to him about her condition. That evening he saw her, and she informed him that the pain "shot" all over the arms, but was most intense over the lower part of the deltoid and the middle third of the biceps; it was aggravated by standing or on attempting to lift a weight—for example, the baby. Sleep, she said, was not much interfered with, as the pain passed off in about an hour after lying down.

In the course of conversation the following points were noticed: (1) The shoulders looked much less square than before the pregnancy; (2) the dress worn, which fitted accurately when it was new, some time early in the pregnancy, was wrinkled above the iliac crests, and at the back was rather dragged towards the axillæ; (3) when sitting Mrs. A selected an armchair and sat leaning forward with her forearms resting on the arms of the chair and her shoulders pushed up towards her ears—a position not at all customary for her; (4) after sitting in that position for some time she became markedly brighter and appeared to be relieved of the dragging pain.

The mental process leading up to the diagnosis was noted as follows:—

1. The area of maximum intensity of pain is the area of cutaneous distribution of the fifth cervical segment, and is not a single nerve area.

2. The pain is evidently of mechanical origin, because it is entirely relieved when the arms are supported or when the patient lies down, and is aggravated when the patient stands up or attempts to carry a weight upon her arms.

3. The shoulder girdle is held in position by the clavicle, the muscles, and the convexity of the thoracic wall.

4. During the later weeks of pregnancy the chest wall is dragged up by the diaphragm, which elevates the ribs into what is, in extreme cases, practically the full inspiratory position, with the result that the shoulder is raised. After childbirth the diaphragm descends and the ribs follow it down. Deprived of support the shoulders also sink. If the child be a large one these descents are to levels lower than those at which the parts lay before the pregnancy—a result of the relaxation of the abdominal musculature and the consequent descent of the abdominal viscera.

5. In the case of Mrs. A the shoulders are normally unusually square (male type). This is probably due to her athletic training as a girl at school. Her abdominal musculature must also, to judge by the physical feats of which she was capable, have been unusually well developed. During pregnancy the abdominal muscles could not possibly have been used as they were accustomed to be used; therefore they practically certainly lost much of their development. This, coupled with the facts dependent upon the size

of the child, must have allowed an unusually great descent of the chest wall, and consequently of the shoulders, to occur after delivery.

6. When the shoulder girdle descends it travels round the arc of a circle of which the centre is at the sterno-clavicular articulation, and the radius the length of the clavicle. The nerves, however, must descend upon the arcs of circles, of which the centres are at the transverse processes of their corresponding vertebræ, and the radii the lengths from these points to the points at which the highest branches are given off to the muscles of the arm. In cases of marked descent of the shoulder girdle it is, therefore, a mechanical necessity that the nerves, more especially the fifth, are pulled upon, and pressed against the transverse processes of their own vertebræ. Such a condition of tension or pressure will be aggravated by the assumption of the erect attitude and by attempting to lift a weight, and will be diminished by supporting the arms or on lying down.

The diagnosis, therefore, was (1) that the pain in Mrs. A's arms was due to pressure of the fifth cervical nerves against the transverse processes of the fifth cervical vertebra; (2) that this was the result of a descent of the shoulder girdle consequent upon the descent of the ribs; (3) that the ribs descended because they lost the support of the diaphragm which followed the viscera down when they gravitated toward the pelvis after childbirth; and (4) that the viscera descended further than is usual because of the atrophy which was superadded to the inevitable relaxation of the abdominal muscles.

The immediate treatment suggested was to force up the diaphragm by allowing the weight of the abdominal viscera to come against it when the head and shoulders were depressed and the pelvis elevated, and then to apply some abdominal support (a folded towel placed inside the ordinary corset was used) before assuming the erect attitude. The ultimate treatment was to re-develop the abdominal muscles.

Asked about the condition at Easter, 1912—i.e., 18 months after the commencement of treatment—Mrs. A reported that the forcing and holding up of the diaphragm had from the very first entirely abolished the pain. Last summer rowing and tennis had re-developed the muscles, and all special precautions were abandoned. Once or twice this spring, when no efficient abdominal support has been applied and long days' tramping have been indulged in, there has been some pain in the arms in the afternoons when the abdominal muscles were getting tired, but this has at once disappeared on Mrs. A putting on a pair of corsets. The results seem to justify the diagnosis.

Dublin.

CYSTITIS AND URINARY ANTISEPTICS.

BY CAMPBELL WILLIAMS, F.R.C.S. ENG.

With a Note on Analyses of Urines for Formaldehyde by
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Hexamethylenetetramine and allied drugs are frequently prescribed in bacilluric cystitis and the early stages of gonorrhoea. A mixture containing helmitol 5 gr., potass. citratis 20 gr., ext. tritici repentis liq. 1 dr., syr. aurant. $\frac{1}{2}$ dr., aq. carui to 4 dr. is a favourite with me, the dose to be taken in an equal amount of water thrice or four times, the last dose at bedtime. This urinary antiseptic (helmitol) is stated to have the composition hexamethylene-tetramine-anhydromethylene citrate, and it is by reason of its salt constitution incompatible with alkalies and their carbonates.

It is well known that the neutral citrate of potash is excreted as an alkaline carbonate, the citric radicle having been "burned up" in its passage to the bladder. One might imagine that the above amount of the potash salt taken in eight doses would reduce the ordinary acidity of normal urine, so that the tetramine compound would meet with either a neutral or an alkaline urine in the bladder. Although possibly it is split up into the base and the citrate salt, it would not be decomposed—arguing on analogy with hexamethylenetetramine—into formaldehyde. My clinical experience, however, led me to conclude that, whilst the combination of citrate of potash and helmitol reduced vesical irritability and gave relief to patients who had either the