RHEUMATIC HEADACHE

BY

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Little recognition has been given in recent years to the once well-known fact that headache can be caused by rheumatic infiltration of the muscles of the neck and scalp.

Historical Note

A rather hasty search in the old literature reveals that rheumatic headache was probably first described by Schönaich in 1615. His paper refers to headaches brought on by cold, arising in the pericranium and associated with tenderness there, and responsible for pain in the eyes and eyelids. Morgan (1769) remarked that headache might be rheumatic, and was then due to spasm of the cranial musculature, with resultant ischaemia. Weatherhead (1835) stated that rheumatic headaches took origin from the aponeurosis of the temporal and occipito-frontalis muscles, and drew attention to a variety in which pain was set up in an eye otherwise normal. Wright (1856) pointed out that the patient's sensations were not to be trusted, since tenderness was not restricted to the painful areas; that the pain might shift from the back of the head to the forehead, face, teeth, neck, and shoulder; that such headaches were apt to complicate attacks of acute rheumatism; and that they might be relieved by a mustard plaster on the neck. Norström (1902) described headaches due to inflammatory deposits in the neck and puffiness of the scalp, and drew the analogy of gluteal rheumatism giving rise to sciatica. He strongly recommended massage. Peritz (1906) infiltrated tender areas in the upper end of the sterno-mastoid muscle with 2 in 100 saline—first, to elicit muscle pain, and, secondly, as a method of treatment, thereby relieving a patient of a temporal headache. Whereas in the treatment of recent injury it is almost certainly the procaine, I am doubtful whether in the treatment of chronic myositis it is not the bulk of the saline solution that is the therapeutic agent; hence Peritz appears to have practised the very methods of provoking muscle pain and of treating it that are now regarded as the latest innovation. Yawger (1909) drew attention to indurations in the scalp which he termed the commonest and least-known cause of headache; he too advised massage. White (1912) seems to have been the first to notice that a pain in the ear might be caused by a distant myositis. Maverick (1913) pointed out that rheumatic headache might last for years and, if massage failed to bring relief, favoured excision of the nodules or injecting chromic acid into them. Hartenberg (1914) found that pain from the nape of the neck was perceived in the occipital region, and from the temple in the forehead and eyes. Patrick (1918) drew attention to the surprising lack of response to aspirin, and advocated massage or, if it failed, scarification of the scalp with the thermocautery. Glasscheib (1927) suggested injecting the nodules with a novocain-glucose solution.

The effect of all this information is to deprive the views about to be expressed of most of their supposed originality; nevertheless restatement of these facts seems timely in view of the oblivion into which rheumatic headache has fallen during the last twenty years.

Theoretical Considerations

The fact that pain in certain parts of the head might originate from distant points had long been apparent to me

clinically as a result of the search for the spots massage of which relieved the patient's headache. However, not until the publication of Sir Thomas Lewis's (1938) way of producing muscular pain artificially was I able to co-ordinate these clinical impressions and put them on an experimental basis. The method of injecting hypertonic salt solution described by J. H. Kellgren (1938) turned out to be most helpful, and gave confirmation and precision to the rough clinical findings. Injections of 0.1 c.cm. of a 4 per cent. solution of salt were made at various points into the occipital, the temporal and the upper parts of the posterior and lateral cervical muscles, and into the epicranial aponeurosis. There was always pain at the site of injection, with reference to a distant area unless the fluid was faultily placed—for example, on to the periosteum. Irritation of fibres of the posterior cervical muscles close to their occipital insertion, and of the occipitalis itself, gave rise to a pain running forwards like a band half encircling the head and reaching its maximum intensity in the temple and forehead over the eye. From punctures between one and two inches below the occiput the pain radiated up the back of the head to the vertex; from punctures below this point the pain did not go beyond the upper end of the cervical muscles. From punctures at the upper end of the sterno-mastoid muscle the pain was referred to the temporal region, and stimulating a small area over the lower central part of the parietal bone gave rise to pain felt in the pinna and, in one case, in the external auditory meatus. Injection into the temporal muscle caused a pain in the cheek and jaws. Injections into the epicranial aponeurosis set up pain referred to the eyes—behind the eyes, in the eyeball, in

Diagram showing the areas of origin of pains referred about the head and face.

the eyelids. Over the posterior part of the parietal bone appeared to lie a "silent area" whence pain was referred only a short way. In no case did the pain cross the mid-line. The accompanying diagram shows, albeit roughly, the main areas of origin of pains felt in the head. In every case the referred pain was felt right inside the head and bore no resemblance to what the patient might have supposed would be caused by so superficial a lesion.

I had believed that the aponeurosis joining the occipitalis and frontalis muscles was analogous to a tendon, and was therefore surprised to find that irritation of the aponeurosis set up the remote pain characteristic of muscle rather than one restricted to the much smaller ambit of reference from tendon. An explanation, however, was to be found in the fact that embryonically the occipito-frontalis is a continuous sheet of muscle, whose central portion later becomes fibrous; hence the aponeurosis may well retain some of the properties of muscle. Thus rheumatic headache can be brought into line with other well-known pains of undoubtedly muscular origin—for example, "sciatica," "brachial neuritis"—in all of which the quality of the pain is the same. Furthermore, I feel sure that the head-

ache that accompanies a sore throat is referred from the pharyngeal muscles, but I did not go so far as to try to inject them with saline.

Clinical Considerations

By consideration of the following points it is not difficult to distinguish rheumatic from other kinds of headache.

History.—The patient has often had previous attacks of rheumatism, and may even come correctly self-diagnosed. The headache has usually been preceded by influenza or a cold, or a streptococcal disease like scarlet fever, and there is often a complaint of a neck still, or recently, stiff.

Symptoms.—The position of the continuous indefinable ache is difficult to ascertain, since the patient feels it to be right inside the skull. If pain is referred to the region of the eye there is no interference with vision, or optical hallucinations, or nausea, as in migraine. As a rule the headache is present on waking, and bending down with the neck rigid does not aggravate the pain, contrary to experience in other kinds of headache. If the patient sits still bent over a book for some time a headache comes on, and the neck feels stiff and may give out cracks on movement. Moving the neck may hurt the head, and the patient may be free from pain with the head supported; or the scalp in the occipital region may be so tender that the patient cannot bear the pressure of a pillow there at night. The pain is not sharp or momentary as in "neuralgia." Large doses of aspirin hardly abate the headache at all.

Signs.—Rheumatic headaches may conveniently be separated into two categories: pain in the head referred from the cervical muscles, and pain in the head due to changes in the scalp. Obviously the signs will differ according to which kind of headache is present, and the two not seldom occur together. Pain elsewhere may or may not be referred, but in rheumatism pain in the forehead does not seem ever to originate there.

Pain Referred from the Cervical Muscles.—There is a diminished range of movement in the neck, with pain on attempted movement which radiates to where the headache is felt. There is tenderness of the posterior or lateral cervical muscles in their upper part, where the grating and stringiness typical of long-standing rheumatism are often palpable. If the condition is at all acute the referred pain can be elicited or aggravated by rubbing the tender spot in the muscle firmly. The diagram above will give a rough indication of where to look for muscular tenderness, from a consideration of the place to which pain is referred.

Pain due to Changes in the Scalp.—In really bad cases there may be pitting oedema with fibrous nodules in the scalp over the occipital and parietal bones; such patients have had many years of constant severe headache. Usually, however, there are some slightly thickened grating areas no bigger than a sixpence and barely perceptible to the examining finger. They are tender, and as a rule are placed symmetrically, or nearly so, on the two sides of the head. Favourite spots are over the central part of the occiput about an inch from the mid-line and about the centre of the parietal bone. Firm pressure on these spots gives rise to both local and referred pain, though the patient had nearly always been aware only of the latter.

From the negative point of view the absence of neurological signs is confirmative.

Treatment

In fibrositis of the scalp treatment is not difficult. Massage must be given daily until the symptoms have gone. In advanced cases the thickenings in the scalp do not disappear; they merely cease to hurt. Provided the correct spots are massaged firmly and persistently there should be next to no failures. The diffuse occipital fibrositis that so often follows influenza may yield immediately to one treatment and not return. When there is long-standing induration of the scalp, massage may have to be continued for some months. I have not tried the effect of infiltration of the scalp areas with procaine, partly because in my experience this treatment, admirable for muscle, is useless for lesions in fibrous tissue, and partly for fear of injecting the procaine solution into a vein with intracranial connexions.

In rheumatism of the cervical muscles these must receive deep friction across their fibres, followed by passive stretching, and the increased range must then be maintained by active exercises. In mobilizing the neck day by day particular attention should be given to lateral bending, which is often more limited than flexion and extension or rotation. If tender spots persist in the muscles after adequate massage their infiltration with 1 in 200 watery solution of procaine is often very helpful. Fibrous tissue in a muscle can to some extent be softened by injections into it of a 1 in 50 solution of procaine in olive oil, and this is more worthy of trial than the watery solution in cases where the muscle feels rough and stringy.

Commentary

If the points of origin of rheumatic headache are looked for according to the above diagram many hitherto unexplained headaches will be found to fit into the two categories described. Obviously many patients with headache and a pain in the eye or ear who may be referred to the appropriate special department, there to be labelled "neuralgia" on the discovery of a normal visual or auditory apparatus, and some of those in whom a post-influenzal frontal sinusitis is at first suspected, may be afforded relief if their symptoms are understood.

Osteopaths have claimed to cure headache. This is not impossible, since massage of the head and neck followed by mobilization, however foolish the theory on which it is based may be, is obviously sometimes excellent treatment.

It is probably fair to say that a headache that goes on for years without altering appreciably or making the patient ill is rheumatic. Apart from these uncommon cases, those who suffer from less persistent headaches can be given great relief by the use of massage if only the existence of this sort of headache is kept in mind.

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