drawing a deep breath. Displacement of the neighbouring structures associated with large accumulations of pus in the pleura may also be painful.

PAIN IN THE LIMBS

Pain in the limbs is shown in two ways: first, the painful limb is moved less than the other limbs, and may be motionless, and, secondly, any attempts to move the limb provoke crying. When an infant has pain in the limbs trauma must first be excluded. There may be a history of injury, and examination may show bruising of the soft parts; but the more severe lesions, such as fracture or separation of an epiphysis, may only be detected after a most careful clinical scrutiny aided by x-ray examination. Trauma, however, is not a common cause of pain in infancy.

Apart from trauma, pain in one or more limbs in an infant under 6 months of age should make us think of syphilitic epiphysitis. In this condition the arms are most commonly affected, and the process may be confined to one limb, which is so immobile that the term "syphilitic pseudo-paralysis" has been given to it. There may be additional evidence of syphilis in the baby, such as condylomata about the anus or mouth, or a history of snuffles or of rashes affecting particularly the palms of the hands and soles of the feet. X-ray examination will show inflammatory swelling of the shaft and epiphysis of the affected bone. Under treatment with mercury the pseudo-paralysis will pass off in ten days or so.

Infantile scurvy is the dominating cause of limb pains in the period from the sixth to the eighteenth month of life. Owing to the subperiosteal effusions of blood the pain and tenderness of the limbs is intense, often making the baby cry from anticipated pain before it is actually touched. The observant mother will notice the baby's sensitiveness at an early stage, especially when she bathes her child, a history which is most suggestive of scurvy. The legs are more commonly affected than the arms, and the baby adopts a characteristic attitude, the hips being abducted and externally rotated and the knees bent. There may be visible swelling, most frequently just above or below the knee; in other cases the swelling can only be detected by gentle palpation. Palpation, however, causes such exquisite pain that one first looks for other signs of scurvy, such as purplish swelling of the gums around the erupted teeth, scorbutic beading of the ribs, orbital haemorrhages, and the presence of red blood cells in the urine. Once the diagnosis is made, relief of the acute symptoms can be brought about in two or three days by giving the antiscorbutic vitamin in the diet. Fresh unboiled cows' milk, fresh fruit juice, and potato made into a cream with milk are all effective, and may be combined in order to expedite the cure. Meanwhile the baby should be moved as little as possible in order to limit the pain, and should only be lifted when his napkins require to be changed.

Two conditions remain which may give severe pain in the limbs. These are acute osteomyelitis and acute poliomyelitis. The onset of osteomyelitis is sudden, and is accompanied by pain and tenderness in the affected limb, the temperature rises to 103° or 104°, and the child rapidly becomes pallid and profoundly toxic. The morbid appearance of the child gives the first clue in distinguishing this condition from scurvy. Later the tissues over the affected bone become swollen and oedematous, and the skin hot and red. As soon as the diagnosis is made the bone abscess should be opened and drained. With this condition we may group the cases of acute suppurative arthritis, often involving several joints, which may arise during infancy, and may lead to swelling of the joints with much pain and loss of movement.

Acute poliomyelitis may occur quite early in the first year of life, and the affected limb or limbs may be acutely tender for the first few days. There is, however, no swelling of the limb, and after a few days wasting becomes apparent. Furthermore, the loss of movement is more profound than in scurvy or epiphysitis, for in these conditions slight movements of the joints can be provoked by stimulation, but in the early stages of poliomyelitis the whole of the affected limb remains motionless.

A CASE OF GLOSSOPHARYNGEAL NEURALGIA

BY

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Tic douloureux affecting the glossopharyngeal nerve is a rare condition. The only cases of it that have been recorded in this country are three described by Dr. Wilfred Harris,¹ but about twenty cases have been reported in America since the publication of Harris's first description of it in 1921.²

Its recognition is important, because it is likely to be mistaken for trigeminal neuralgia of unusual distribution, and treatment may be misdirected in consequence. In a large proportion of the recorded cases, the patient has been subjected without benefit to an alcoholic injection of the third division of the trigeminal nerve, or to an operation on the Gasserian ganglion before the true condition present has been recognized.

The following case is the first that has come within my experience.

A man, aged 61, was referred to me on October 3rd, 1930. He complained that when he swallowed he had a "burning" pain in the left side of the throat and an intense stabbing pain deep within the left ear. Each spasm of pain lasted only a few seconds. The spasms varied greatly in frequency and severity, but when they were prevalent he had "a dread of meal times."

Inquiry brought out the following additional facts. The trouble began about eight years previously. At that time the patient felt "a prick" in the left ear when he swallowed. This disappeared for months at a time. After a considerable period it began to be a rather sharp pain.

About 1925, when having a drink of stout, he had an attack of the most intense pain in the ear. It lasted only for a few seconds, but he "thought he would go mad." This was the first attack of intense pain; few subsequent spasms have been as severe. He attended the throat department of one of the large hospitals, and was examined, but nothing abnormal was discovered, and no treatment was given. Thereafter severe pains became not uncommon. By this time he had noticed that the pain in the ear was accompanied by a "burning feeling"—not intense—towards the back of the throat on the left side. The attacks used to make him bend his head over to the left and draw the left shoulder up. The pain was nearly always brought on by swallowing; both solids and fluids would cause it, and any large bolus of food was sure to bring on a spasm: swallowing saliva sometimes caused the pain, and talking sometimes seemed to bring it on. The left side of the throat felt dry, especially at night, and this feeling made him "clear his throat" frequently.

In 1926 he was examined at Golden Square Hospital by a laryngologist, who raised the possibility of a growth in the throat, and took the precaution of examining him again, under a general anaesthetic. Nothing abnormal, however, was discovered in the throat. The following year he saw another laryngologist, who said his tonsils were septic and advised their removal. Tonsillectomy was performed, and for some time afterwards the patient had very little pain.

Recently the pain has not been of the maximum severity. It is brought on, above all, by swallowing, and nearly all the attacks are at meal times. Swallowing saliva and talking cause lesser attacks. During swallowing, when the bolus "gets a certain distance into the throat," the pain is felt. The "burning" pain in the throat has now spread further forward, involving the left faucial arch. The worst pain is within the ear. Some pain is felt in the external auditory meatus and spreads over a small semicircular area within the auricle behind the meatus. When the spasms have been frequent and severe, this area remains sensitive continuously, and touching it excites the pain: at such times the patient does not dare to wash the left auricle. This condition may continue for a week or so at a time. There has been no pain on the back of the auricle or on the side of the face. With severe spasms there is a great increase in the flow of saliva. This is always accompanied by intense burning pain in the left side of the throat.

Discussion of Symptoms

The area within the pharynx to which the patient refers the "burning" pain receives its sensory nerve supply from the main division of the glossopharyngeal nerve. The middle ear is supplied by the tympanic branch of the same nerve, and it is doubtless this branch that is responsible for the patient's worst pain. A twig from the tympanic branch joins the auricular branch of the vagus which supplies the area in and behind the external auditory meatus, where the patient has occasional pain. The glossopharyngeal nerve is the secretory nerve to the parotid, and it is presumably to excitation of the parotid branches that the salivation accompanying his more severe spasms is due. All the symptoms are thus referable to the distribution of the glossopharyngeal nerve.

Physical examination of the patient on two occasions has revealed no abnormal signs within the province of the glossopharyngeal nerve, in other parts of the nervous system, in the throat or ear, or in the neck.

The typical distribution of the pain in glossopharyngeal neuralgia is in the pharynx, ear, and auricle. In some of the recorded instances the pain radiated behind the auricle and also in front of it down to the angle of the mandible. Pain behind the auricle may be attributed to excitation of the auricular branch of the vagus, but pain anterior to the auricle and down to the angle of the mandible is not easily accounted for unless we suppose either that some of the parotid branches are sensory, or else that with the neuralgia there is an overflow of stimuli within the common somatic sensory nucleus in the medulla, giving rise to a sensation of pain referred to this part of the face.

In many of the recorded cases frequent "clearing the throat" or "hacking" is referred to. This symptom, which was not pronounced in my case, arises secondarily from the feeling of discomfort in the throat—"as if there was something there." Clearing the throat evidently gives the patient some relief.

Diagnosis

In the first place it has to be determined that the pain complained of is in the distribution of the glossopharyngeal nerve, and, in the second place, it must, as far as possible, be determined that it is an "idiopathic" neuralgia.

The distribution of the neuralgia has already been sufficiently referred to. The similar well-known neuralgia of the third division of the trigeminal nerve affects the lower jaw and tongue, and may involve the lobe of the auricle. Geniculate neuralgia is a rare condition which causes a pain in the ear usually associated with facial palsy; in most cases it is preceded by herpes in the ear. Strict attention to the site of the pain will determine whether

it is in the glossopharyngeal distribution. The second part of the diagnosis is more difficult. Dr. Harris¹ has described three cases (and a suspected fourth case) of malignant disease in the throat accompanied by neuralgic pain of glossopharyngeal distribution. Weisenburg² described a case of tumour in the cerebello-pontine angle in which for six years there had been *tic douloureux* in this same distribution. In a case of glossopharyngeal neuralgia lately recorded by Fonio³ there was an aneurysm involving the common and internal carotid arteries. It is therefore essential to exclude, as far as possible, all such sources of irritation of the nerve before considering any case as one of "idiopathic" neuralgia. In the case reported here eight years have passed since the spasms of pain began, and no signs of any such exciting cause have been found, so that the neuralgia is almost certainly "idiopathic."

Treatment

In my patient, contrary to the usual experience, phenazone and gelsemium seem to have brought about a remission of the pain, and no operation has been done. When operations were first performed for this neuralgia it was thought necessary to divide, not only the glossopharyngeal nerve, but also the pharyngeal branches of the vagus, and in some cases the superior sympathetic ganglion was excised as well. It has since been found that it is sufficient to operate on the glossopharyngeal nerve alone. One case was successfully treated by Dr. Wilfred Harris by alcoholic injection. There are two operations, each of which has given complete cure in several recorded cases. The earlier one was evulsion of the nerve at the jugular foramen by operation in the neck. Subsequently, Adson⁴ demonstrated on the cadaver that the glossopharyngeal nerve could be reached intracranially by an approach similar to that used for the Gasserian ganglion, and could be distinguished without difficulty and divided close to the brain stem. This operation has been carried out successfully by Dandy⁵ and by Stookey.⁶ No disability results from destruction of the glossopharyngeal nerve of one side. The affected side of the pharynx becomes anaesthetic, and taste is lost on the posterior third of the tongue on the same side; there is no difficulty in swallowing; the arch of the palate droops slightly at rest, but is elevated normally.

Comparison with Trigeminal Neuralgia

Glossopharyngeal neuralgia is exactly comparable to trigeminal neuralgia. The pain is of the same severity, and has the same spasmodic shock-like character. In both conditions it is excited by peripheral stimulation within the area of distribution of the affected nerve—in glossopharyngeal neuralgia chiefly by swallowing, the affected nerve being distributed to the throat; in trigeminal neuralgia by eating, talking, and washing the face, the affected nerve being distributed to the mouth and face. Long remissions of the pain may occur in both varieties. Further, the neuralgia may remain limited to, or may be preponderant in, certain branches of the nerve. In my patient it was limited at first to the tympanic branch; in other recorded cases it has been limited, or practically limited, to the main division supplying the pharynx. In trigeminal neuralgia the limitation to one division of the nerve is, of course, a usual condition.

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