

1. A distinctly cystic swelling (rounded, fluctuating, translucent).
2. The swelling shows the respiratory movements, and the pulsation of the brain, but the first never to the degree shown by a cephalhæmatocele.
3. It is situated along the meeting-place of one or more of the skull bones; a bony ring can be detected at its base.
4. It is congenital, or acquired after severe injuries to the skull (in which case it may be situated in the middle of a bone).
5. In some cases compression of the tumour produces symptoms of brain compression. In many cases, however, compressibility, and, consequently, pressure symptoms, can not be demonstrated. The diagnosis is then made by means of the situation of the tumour, the gap in the bone, and the fluctuating consistence.

CHAPTER V

THE FACE: TRIGEMINAL NEURALGIA

SPENCER WELLS, the most distinguished ovariologist of our day, describes a characteristic facial expression in his work on Diseases of the Ovary. Among the profession it is usually known as "facies uterina"; he prefers to call it "facies ovariana." "The emaciation, the distinctly outlined muscles and bones, the expression of fear and of suffering, the furrowed brow, the deep-sunk eyes, the open, sharply outlined nostrils, the long, compressed lips, the drooping corners of the mouth, and the deep wrinkles which curve around it, together form a characteristic picture." This description, which accompanies Spencer Wells's illustration, is so general, that it will fail to produce in the reader's mind the deep impression created by observing one such patient. No matter how accurate this picture, no one will make a diagnosis of ovarian cyst, or even of any trouble referable to the organs of generation, by the facial expression alone. The description, however, is of importance to the beginner, because it indicates the value of detailed observation.

Since Duchenne has published his fine observations on the mechanism of facial expression, in his extensive and interesting work, a pathological facial expression is no longer an unsolved problem. In fact, such at-

tempts have been made; for example, the excellent article of König on The Face in Tetanus. Since earliest times observations of characteristics have been at the disposal of the physician. Not to mention the *facies Hippocratica* of the ancients, every practising physician is familiar with the *facies* of a patient suffering from cancer of the stomach. The hysterical physiognomy is well known. The tuberculous expression (*habitus*) is recognised even by the laity, while a patient afflicted with a heart lesion is immediately spotted by the interne. Œdema of the eyelids may betray a Bright's disease, and this is but one example of many. Just as the insane asylum found its portrait-painter in Kaulbach, so might many diseases be recognised by a portrait of the patient.

However, no observations of this kind can be used as sole basis of diagnosis, but it may well furnish sufficient grounds for hazarding a tentative opinion. No sign is too unimportant, no symptom is to be underestimated, if the logical process employed by the diagnostician has as its foundation the discovery of symptoms of disease, and the observation of variations from the normal type. "Eum laudo," says Celsus, "qui quam plurimum percipit." As a matter of interest as well as of illustration, the following examples will show how a single glance at the face of the patient may prove of material aid to the clinician:

A patient complains of hoarseness; upon the forehead is an attached scar; his pupil is distorted. We at once think of syphilis, and the whole examination has a definite trend imparted to it.

Here is another case: A patient receives a Pott's fracture, and this is placed in a temporary splint. During the night our patient jumps out of bed, tears off the bandages, hops about on his broken leg, and it

is only by good luck that the attendants arrive in time to force him back to bed without further accident. Had the evidences of alcoholism in the patient's face been noticed, delirium tremens would have been anticipated, and consequently a firmer bandage and more careful watching would have been ordered.

An old gentleman fractured his thigh while out walking, but not at the neck of the femur, as is usually the case with old people. The fracture was in the shaft. When v. Dumreicher was called in, he noticed a strabismus of minor degree. He immediately followed up this symptom, and on questioning found that the strabismus had existed fourteen days. He diagnosed: fracture due to carcinomatous degeneration of the bone, and also carcinoma at the base of the skull. Autopsy confirmed the diagnosis. The primary focus was a carcinoma of the parotid.

Naso-pharyngeal polypi (adenoids) are a disease of puberty, almost entirely confined to the male sex. Very frequently serious hemorrhages are caused by this condition. As the tumour blocks the nasopharynx, the patient is forced to breathe with his mouth open. In many cases a glance leads one to suspect the true state of affairs, for the patient's physiognomy becomes peculiarly stupid and torpid. The anæmia, the patient's youth, and the nasal voice, are additional aids in diagnosis.

A patient presents himself with a swelling in the neck, which, at the first glance, proves to be a malignant tumour of the lymph glands. Where is the primary focus? The practised eye at once notices a scar on the lower lip. On inquiry it is found that this was the seat of an epithelioma removed by operation. The gland tumour is metastatic and due to the epithelioma.

An acquaintance of mine, about sixty years of age, came to see me. I noticed that his right eye protruded and was displaced toward the upper and outer side of the orbit. He told me that he was being treated by a specialist for a catarrh of the antrum. I at once suspected that the case was one of sarcoma of the superior maxilla, and examination confirmed this suspicion.

Careful inspection is of value not only when the patient first presents himself, but also after operation and in the course of surgical diseases. In describing

injuries to the skull it has already been emphasized that the sudden occurrence of strabismus or ptosis has an ominous significance.

A young and highly educated patient was suffering from anthrax of the nates. During the course of the disease shooting pains in the chest developed. The interne, who had charge of the case, diagnosed pleurisy. The complication might have been accidental, but on the following day symptoms of infiltration of the parenchyma of the lung developed—that is, pleuro-pneumonia. As no chill had occurred, the pneumonia might have been a septic one, but the general picture did not agree with this. On the following day jaundice was noticed. Small areas of consolidation appeared in widely separated spots. In spite of the absence of chills, the diagnosis of pyæmia was made, because of the signs in the lung and the jaundice. Autopsy showed that the lung was literally riddled with metastases.

A woman had a melanotic sarcoma of the trunk. During a morning visit I noticed drooping of one corner of the mouth. Facial paralysis. Evidently a melanotic deposit had formed upon the cortex. Other paralyzes soon followed, then convulsions and death. The necroscopy showed tumours in the brain.

In a well-grown, buxom girl of twenty an inflammation of the left elbow-joint spontaneously developed. The posterior region of the joint grew doughy and spherically rounded. In spite of the blooming appearance of the girl, v. Dumreicher diagnosed tuberculosis of the joint, very early in the course of the disease, before any tumefaction had taken place. The girl was blond, had a transparent skin, and small opacities on both corneæ. As a child she had suffered from scrofulous ophthalmia. Later on the arm had to be amputated.

The number of examples which show how the observation of small details lead to the finding of new symptoms, and thus to the proper interpretation of the symptoms already observed, could be multiplied indefinitely. In each case we must notice the shape of the skull and face, the colour of the skin, the facial expression, the position of the eyes, the shape of the nose, the way the mouth is held, the speech, the action of the

muscles, etc. The more we observe such facts the more we intensify and train our powers of observation. In this chapter we shall discuss only the diagnosis of diseases of the face. Diseases of the organs of mastication and of the mouth will be treated in the following chapter.

Let us begin with the disease of the face *par excellence*—Fothergill's neuralgia (Prosopalgia, or tic-douloureux).

The questions which the physician must answer, in order to make a complete diagnosis, are as follows: 1. Are we dealing with a true neuralgia of the trigeminus? 2. What is its distribution—i. e., what branches of the fifth are involved? 3. What must be regarded as the cause of the disease? As to the first point, the answer is not difficult; the second is harder to answer, and the third still more so.

Arguing from an anatomical standpoint alone, it will be evident that an inflammatory pain will be felt over the inflamed area. If a bone is affected, the pain is felt over the region of the inflamed bone. If a muscle is diseased, the pain is distributed along its course. If the connective tissue is inflamed, the pain will not correspond to the anatomical distribution of a bone, nerve, or muscle, but to the diffuse distribution of the connective-tissue planes. If a sensory nerve is affected the pain is felt along the course of all its branches. It is not limited by the anatomical boundaries of a bone or muscle, nor does it embrace the region of other nerves, as is the case in inflammations of the connective tissue. *Pain limited to the area of distribution of some definite nerve* is the first and most important symptom of neuralgia.

Clinical experience has furnished a second important distinction which aids in the diagnosis. It is generally known that inflammatory pain is lasting, and secondly that it is increased by pressure. In contradistinction to this, neuralgic pains are of a peculiar character. In the first place they are not lasting, but appear in *paroxysms*; in the second, only certain *points* are painful on pressure, not as in inflammation, where the whole inflamed area is sensitive.

And finally, clinical experience also furnishes a quantitative measure. In inflammatory processes the amount of pain has a fixed relation to the amount of pressure, the swelling, and other symptoms. In neuralgia the slightest disturbance, such as gentle pressure, opening the mouth, swallowing fluids, a loud word, can cause the most violent attacks. This may be followed at once by a return to the normal condition. There are cases in which pressure upon the nerves relieves the pain. We can therefore regard the following as characteristic of neuralgic pains:

Neuralgia is limited to the course of some nerve. It appears in paroxysms, and the pain is disproportionately severe. Neuralgic attacks, in addition, have an entirely characteristic train of symptoms seen in no other painful conditions. Among the symptoms which are seen in manifold combination may be mentioned hyperæsthesia of the skin in the affected region, anæsthesia in cases of longer standing, spasmodic contractions of isolated facial muscles, injection of the conjunctiva, increased lachrymation, and increased secretion of saliva and nasal mucus, etc.—a picture which is characteristic and not easily confused with any other disease.

If the pain is limited to the distribution of a single branch of the trigeminus, it is not difficult to decide on the branch affected.

On an anatomical basis the following varieties are differentiated:

1. *Supra-orbital neuralgia*, if the pain is distributed on the forehead, root of the nose, and the upper eyelid.
2. *Infra-orbital neuralgia*, with pain in the lower lid, alæ of the nose, cheek, and upper lip.
3. *Neuralgia of the superior dental*, with pain in the upper teeth.
4. *Neuralgia of the subcutaneous malæ*, with pain in the malar bone and region of the temples.
5. *Neuralgia of the inferior dental*, if the pain is felt in the lower teeth.
6. *Neuralgia of the lingual*, with pain in the tongue and mucous membrane of the mouth.
7. *Neuralgia of the auriculo-temporal*, with pain in the temples and the region of the ear.

These are the most frequent forms assumed by neuralgia limited to single branches. From an anatomical standpoint alone, it appears evident that a more extensive peripheral distribution of the pain corresponds to the involvement of more branches—i. e., a more central location of the disease.

Let us, for instance, suppose regions 2 and 3 simultaneously affected. The pain will then embrace the lower lid, cheek, side of the nose, and upper teeth. In this case we must suppose that not only the infra-orbital, but also superior dental is affected; or, in other words, the second branch, at a situation in which it has already given off its zygomatic twig, but not yet divided

into its two terminal branches. If region 4 were also affected, the painful area would embrace the temple and malar bone as well, thus indicating that the subcutaneous malæ was also involved, or the trunk of the second branch before it gave off the zygomaticus; in other words, the whole second branch. Accordingly, with the help of anatomy, we can in each case map out the seat of the neuralgia by the peripheral distribution of the pain. On the face the three branches are indicated by the following three lines: A line drawn from the crown of the head along the anterior border of the parietal bone to the outer angle of the orbit, then continued to the inner canthus and to the tip of the nose, demarcates the region of the upper branch from that of the second. A curved line extending from the angle of the mouth to the outer canthus divides the distribution of the second branch from that of the third.

As a matter of fact, knowledge of the anatomy of the branching and peripheral distribution of the fifth nerve is indispensable if the seat of the neuralgia is to be determined. But this knowledge alone is insufficient, unless the fact that radiation to neighbouring branches may occur is also borne in mind during the examination. It must be determined whether radiation has occurred or not, and if it has, which branch is primarily diseased. This question may, as a rule, be determined by the following means:

1. The neuralgia begins in the nerve first affected; only later, in the course of the disease, does it reach the nerves affected by irradiation.
2. During *each* attack the primary nerve is painful; the pain often fails to appear in the contiguous nerves.
3. Each neuralgic at-

tack begins in the primary nerve; only at the height of the paroxysm is pain felt in adjacent nerves, and it disappears from these before the end of the attack is reached. 4. The irradiated pain is less intense.

Valleix's puncta dolorosa—the painful spot at the point of exit of the nerve-trunk—is of such doubtful value in diagnosis, and is still so differently interpreted by various authors, that we will not enter into its discussion.

If we have been able to determine whether irradiation takes place or not, a new question arises: Is the neuralgia peripheral or central? Unfortunately, our knowledge is not as yet sufficient to answer this question. If the neuralgia is limited to a single branch, and is due to some peripheral cause (trauma, sudden cooling of the skin), it is fair to assume that the neuralgia is peripheral. If, in addition to the neuralgia, other symptoms of brain trouble present themselves, the opposite conclusion is more reasonable.

To affirm more than this would oblige us to strain the truth, and even this assumption, if we remember the insufficient data, may not be justified.

In answer to the third question—namely, the cause of the neuralgia—only a few suggestions can here be given. Neuralgias of intermittent type—especially supra-orbital—are often due to malarial infection. Here quinine gives brilliant results. As a rule, it is necessary *ex juvantibus* to come back to the etiology. Sufficient cause for neuralgia exists in a carious tooth, a foreign body embedded in a bone, a scar, a tumour, or an inflammation of the bone through which a nerve passes. If such local causes are lacking, a trauma previously sustained, some very sudden change of temperature,

mercurial poisoning, etc., may be the causal factor. Finally, hysteria, anæmia, some distant disturbance (liver trouble, any abdominal disease), must not be forgotten, and, in some instances, the effect of treatment may serve to clear up the etiology.

CHAPTER VI

SURGICAL DISEASES OF THE ORBIT, NOSE, AND FRONTAL SINUS

IN this day of specialists but few diseases of the orbit reach the hands of the general surgeon. In consequence this discussion will be quite fragmentary.

Orbital *Blood Effusions* are of common occurrence. Formerly it was believed that subconjunctival effusions, appearing several hours after an injury, invariably signified a fracture of the roof of the orbit. More careful investigation has, however, shown that such ecchymoses may arise from rupture of the orbital vessels. Their source may be found within the skull, the blood reaching the orbit either through the optic foramen or through the sphenoidal fissure. It follows that exophthalmos or lateral displacements of the bulb subsequent to an injury, and combined with subconjunctival ecchymoses, can not, without further corroboration, be regarded as a proof of fracture of the orbital roof. But in fracture of the base this assumption is, as a rule, justified, for the cause of the effusion usually is due to a direct extension of the fissure at the base into the roof of the orbit.

If subcutaneous emphysema accompanies these symptoms, and the existing exophthalmos is increased by sneezing, it may be positively stated that the inner