only in individuals of lymphatic habitus. 2. As a rule, more careful examination will show that one or more of the neighbouring glands are enlarged. 3. The swelling is of some size from the outset, for lymph glands begin by enlarging before they suppurate. Cysts, however, can already be distinctly felt when barely the size of a pea. 4. In broken-down glands spots of harder consistence can be felt here and there. 5. The shape is not strictly rounded.

A cystic bursa is distinguished by its site—either in front of the thyroid cartilage or symmetrically placed beneath the hyoid bone—and by its immobility. The bursa under the hyoid bone, especially, is differentiated from a cyst by its flattened shape. The bursa in front of the thyroid cartilage is characterized by its rounded form, soft consistence, and, if it contains rice bodies, by the friction crepitus they produce.

How are we to decide between an inflamed bursa situated in front of the thyroid cartilage, and a suppurating lymph gland in this situation? Such a dilemma can arise only if the lymph gland has broken down very slowly, and has not grown painful until ready to break through the skin. The previous existence of a soft swelling must be taken for granted, as the bursa would become inflamed only after an hygroma had persisted for some time. The following points will aid: 1. The individual. Slow, painless breaking down of a lymphatic gland occurs only in people of tubercular habitus; bursæ are found in muscular subjects. 2. Inflammation of the bursa is marked by sudden occurrence of severe throbbing pain, with œdema and redness of the skin. The suppurating tubercular gland causes a circumscribed reddening of the skin, is gradual in its onset, and is not accompanied by the same throbbing pain. The fever noted in the suppurative bursitis is absent in tubercular adenitis.

Large, flabby, cold abscesses of the neck occur only in connection with bone trouble, especially in disease of the spine. In such cases the symptoms of the spinal trouble are present.

The tumours which contain blood communicate directly with a blood-vessel, and consequently empty on pressure. They are either blood cysts—which communicate with veins, large varices—or ANEURISMS. If the volume of the tumour increases on compression of the efferent vein, the connection with the vein is demonstrated. Aneurisms, on the other hand, pulsate. We may therefore say that a compressible tumour contains blood, and that a pulsating tumour contains arterial blood; consequently it is an aneurism—either a true or a false one. In the case of an aneurism, we have only to determine the vessel from which it springs in order to complete the differential diagnosis.

A cavernous angioma, in addition to its compressibility, is characterized by other external signs. Its surface is flat and irregular, yet the swelling is not truly fluctuating. Unfortunately, while theoretical proof is easy, the practical proof is hard to obtain. To show that a tumour of the neck is compressible is sometimes a difficult feat.

We have taken for granted that pulsation may be relied upon as an entirely unequivocal sign, which justifies the diagnosis of an aneurism if the tumour can be emptied. We must modify this statement by adding, that in practice this simple and convincing basis can frequently not be applied, for the reason that at the very outset of our examination we will be greatly embarrassed, and unable to distinguish whether the tumour can be emptied—*cum grano salis*, we may say that it is only compressible—or in fact whether it pulsates. It is not easy to empty an aneurism, and, further, in carotid aneurism we refrain from all heavy pressure or kneading of the tumour for diagnostic purposes. Fer-

guson employed manipulation of the sac to effect a cure. Yet a still living and highly successful surgeon, Professor Esmarch, of Kiel, was unfortunate enough to have a patient become hemiplegic and die as a result of kneading, the autopsy showing that widespread peripheral thrombosis had resulted. The patient's death, therefore, was directly due to digital examination. On the other hand, the tumour under consideration may show *transmitted* pulsation. An abscess, which resembles an aneurism in shape and location, may transmit pulsation, but repeated examinations will show certain well-marked differences.

We are guided by the fact (1) that when the neck is held properly the swelling shows no lateral pulsation, and that when it is lifted away from the artery all pulsation ceases; (2) that at each diastole the swelling is raised, but not enlarged; (3) that no bruit is heard.

All the signs and symptoms of an aneurism may be present—pulsation, diastolic increase in size, and bruit—and yet the tumour in question not be an aneurism. It may be a very vascular neoplasm; differentiation is then very difficult. It is true that such a neoplasm can not be emptied by pressure, but, as it is soft and more or less compressible, the symptoms are not convincing.

Observation of the pulse is a more trustworthy guide. In a large aneurism the pulse in the peripheral branches of the vessels is retarded by a small fraction of a second; a neoplasm situated close to the carotid or subclavian can not cause this symptom. In addition, knowledge of the manner in which the tumour has developed affords valuable confirmatory evidence. A neoplasm develops rapidly, an aneurism slowly. The patient may tell us that at first the tumour was a hard

nodule; that it began to soften later, and that pulsation grew more and more distinct. This harmonizes with the history of a tumour, for an aneurism is soft and pulsates from the outset. If a pulsating tumour rises and falls during deglutition aneurism is at once excluded. Attention was first called to this fact by Astley Cooper.

In some cases the question arises from which of the large vessels of the neck the aneurism is derived. The importance of this query is evident, even if distal ligature is determined upon. If the aneurism is placed at the bifurcation of the carotid, we may be in doubt whether the external or internal carotid is involved, but the question is of no importance, as in either case the main trunk would be ligated. If the aneurism, however, is situated at the origin of the carotid, it is important to be certain whether the dilatation is of the carotid, subclavian, or innominate arteries. Mistakes have here been made by experienced surgeons. The most important symptom is the retarded pulse in the peripheral twigs of that artery which is the seat of the aneurism.

The point of origin of tumours of the parotid region can deceive the most experienced diagnostician. This holds true not only of tumours, but also of inflammatory swellings. Endemic PAROTITIS gives a characteristic picture, recognised even by the laity, as is well shown by the peculiar popular names given to it. The names of "goat peter" (*Ziegenpeter*), *Bauernwetzel*, or mumps, do not show the histology or the site of the disease; but "booby sickness" (*Tölpelkrankheit*) is more enlightening, as it offers but one explanation—that the appearance of the patient is like that of a lout. The designation of *Wochentölpel* (literally,

booby sickness of a week's duration) sheds light not only on the clinical features, but also upon the duration of the disease. The rapid and extensive swelling in the parotid region causes the neck to become broader than the head, especially if a symmetrical enlargement of both sides takes place. The patient experiences difficulty of speech, and suffers from dribbling of saliva, for swallowing becomes painful. He is unable to turn his head; his neck is misshapen; his entire appearance is loutish—*inde nomen.* In a case of this kind an error in diagnosis is scarcely possible, for the lymphatic glands never swell to this size in the course of a few days. If we meet with the disease in its early stage, we rely on the following symptoms: the patient has pain behind the ramus of the jaw and below the ear, ushered in by sudden fever, or even by a chill. A swelling appears in the region mentioned, and the hollow normally found anterior to the sterno-mastoid is replaced by a prominence. This swelling is painful on pressure, and not circumscribed. The skin covering it is not reddened, but paler and more waxy than normal. The patient anxiously avoids opening his mouth, because this act would compress the parotid, and therefore cause great pain. Most patients are annoyed by tinnitus aurium. The affected side of the mouth is either drier, because the salivary secretion is inhibited, or there is increased salivation. The saliva sometimes is turbid and fetid. The only other condition which could bring about this symptom-complex is an inflammation of the lymphatic glands lying beneath the parotid fascia. As these glands are numerous, and many of them are embedded in the parotid gland itself, it appears reasonable that this inflammation could cause a sympathetic

disturbance of the parotid—abnormality of secretion. Therefore, the diagnosis between these two conditions would appear very difficult were it not that the physician is guided from the very start by the fact that the tissue of the entire parotid is uniformly nodular and painful to the touch. At a later stage, the rapid increase of the whole swelling is of such proportions as to exclude its origin from the small lymphatic glands. If the swelling disappears without suppurating, the case is even more clearly demonstrated, for only deep-seated, suppurating glands can cause a swelling of large proportions. If the disease is endemic, no doubt as to the nature of the trouble can arise; likewise, if the swelling of the parotid is followed by swelling of the testicle.

But there is another variety of parotid swellings which is still almost invariably unrecognised. These are the so-called salivary tumours, or, as they are more properly called by v. Bruns, CYSTS OF THE SALIVARY DUCT. They are due to local distention of the salivary duct by a collection of saliva in the sac. As a rule, they do not reach large dimensions. If no inflammatory symptoms are present the swelling is most often mistaken for a cyst, for it is sharply circumscribed, fluctuates, and, in many cases, tense. In a scrofulous individual it may be confounded with a cold abscess, or, if more violent inflammatory symptoms are not wanting, with an acute abscess. If, labouring under this mistaken diagnosis, the swelling is incised, the resulting fistula is hard to close; this error should therefore be avoided.

If the tumour can be partially emptied, this symptom, alone, demands examination of the inner end of Stenson's duct by probing from within the mouth. Fur-

ther observation is then required, and special attention should be directed to the tumour on chewing, speaking, or on partaking of salty or acid food, for the swelling may increase in size with the additional secretion of saliva. In doubtful cases an exploratory puncture, made from within the mouth, should settle the matter.

The following case was of interest: A man, about forty years of age, came to the clinic complaining of a flattened, rounded tumour, the size of a half walnut, situated in the parotid region. The tumour was sharply circumscribed and fluctuating. The skin over it was normal. The patient was healthy; therefore no cold abscess. Consequently, a sebaceous cyst was the hasty diagnosis of the students. I, however, showed that the tumour was immovably fixed, and that the skin did not show the vascular network which is invariably present in sebaceous cysts of this size occurring on the face. I diagnosed a salivary cyst, and puncture showed salivary secretion.

Not infrequently *salivary fistulæ* occur in the parotid region. The location of the fistula will usually determine whether the tract leads down to the duct or to a lobe of the gland. If its site does not definitely settle this point, the amount of saliva discharged will do so. A *fistula* of *the duct* alone can discharge *large* quantities of saliva after eating, because it receives the secretion of the whole gland.

Solid *Tumours* of the parotid often offer insurmountable difficulties to diagnosis. Naturally, only those tumours which extend deeply into the parotid fossa, and are not readily movable, are here referred to. A careful history is of the greatest assistance. A tumour which begins as a small, protruding, movable nodule, and grows fixed only after penetrating into the deeper parts, did not originate from the parotid gland. A tumour which at first forms a flat and diffuse elevation in the parotid region, but later develops into prominent knobs, must have started from the parotid. This really is all that can be given as a general characteristic.

CHAPTER X

DYSPHAGIA—STENOSIS OF THE ESOPHAGUS

A PHYSICIAN of Amsterdam (van Geuns) more than one hundred years ago divided dysphagia into two varieties. He distinguished between difficulty of deglutition and difficulty of transglutition. In the first, the patient can begin the act of swallowing, but the bolus sticks fast in the esophagus; in the second, the solid or fluid meets with hindrance somewhere between the lips and the gullet. The bolus can not reach the esophagus, but, if it reaches this, it can enter the stomach without further hindrance. This division is of practical value, for the diseases which produce difficulty in the chewing, formation, and transportation of the bolus differ from those which are marked by an obstacle situated in the esophagus itself. In the former, paralysis is usually the cause, as chewing and turning the bolus, and then transporting it to the esophagus, is chiefly a muscular act. The latter, as a rule, is caused by strictures; for Mikulicz, by means of esophagoscopy, practised from above, and Maydl, by endoscopy through a gastric fistula, from below, showed that the normal esophagus is a wide-open and gaping tube into which the object to be swallowed need only be introduced. In order to appreciate the value of the symptoms, it is sufficient to be cognizant of these facts. Swallowing presupposes not