CHAPTER LXI.

THE TUMORS OF THE MOUTH.

THE EPULIDES.

Tumors of the mouth most frequently met with are those seen growing upon the gums, and known as the epulic. These growths are, in almost all instances, first to be observed making their way from about the neck of some particular tooth, pushing out apparently, from the socket, being found to originate from the odonto-periosteal membrane.

As the epulides, like other tumors, classify themselves into self-explaining and non-explaining, the term epulis, still in quite common use, is without proper signification when employed as a noun substantive. It is derived from the Greek words ἐπί and οὖλα, signifying "upon the gum;" it is to be accepted as distinctive of situation only, so that, in using it, one expresses simply that a growth spoken of is upon the part classically designated.

Histologically expressed, the epulic tumors are to be arranged as follows: epulo-fungoid, epulo-erectile, epulo-fibroid, epulo-fibro-recurring, epulo-sarcomatous, epulo-myeloid, epulo-myxomatous, etc. Clinically classified, we have to concern ourselves only with benignancy or malignancy, as thus alone we are led to a required treatment.

The single epulic tumor which may *with certainty* be known as benign is the pulp-fungoid. A second form, which is usually found so, is the erectile. Any of the epulides which does not exhibit itself as one or the other of these forms is to be deemed cancerous, and treated with the latitude given to cancer. No other inference insures the best good to the patient.

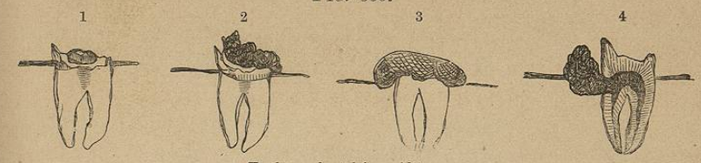
A pulp-fungoid growth is self-explaining. An erectile tumor is fairly so from analogy with the common vascular nævi: it is, in fact, a nævus. Besides these two *no other* of the epulides possess explanation of their presence or of their development. The epulo-fungoid growths demand a treatment peculiar to themselves; so, also, do the erectile. All the other epulides are to be treated on a common principle. From such data, which may be accepted as solidly reliable, the surgeon is led to perceive that an appreciation of the first two insures clinical understanding of all the other conditions. That is, knowing two, he knows all the rest.

The Epulo-Fungoid Tumor.—By an epulo-pulp-fungoid tumor is meant a fungoid growth of an exposed degenerating tooth-pulp. This tumor is as common as it is simple and harmless, and is certainly to be seen in a thou-

sand cases to one of any other form. The fungoid pulp tumor is met with under the various aspects exhibited in Fig. 553.

Referring back to Figs. 41, 42, and description, the dental pulp is recog-

Fig. 553.



Epulo- or dental fungoid tumor.

nized as a stroma of delicate connective tissue, in which stroma ramify blood-capillaries and nerve-fibrillæ; this structure occupies the cavity of a tooth, and is liable, through the accidents of decay or fracture, to become exposed. When so exposed, it is not unlikely to undergo fungoid degeneration.

Fig. 553, Subfig. 1, is an outline drawing representing the walls of a tooth-root enveloping its pulp, which pulp, slightly fungous, projects a trifle above the level of its cavity. In molar roots, the crown being gone, such form of pulp-tumor is very common. No difficulty exists in its recognition, as the boundary-walls of the cavity are plainly to be observed. A form of such tumor, a trifle complicated, is exhibited in Subfig. 2: here, as is seen, the fungus is of such extent as to overlie the boundaries of its cavity; any confusion is avoided, however, by thrusting the mass aside, when its character is at once made evident. Subfig. 3 represents another condition: here the mass has increased to such extent that it not only conceals the cavity, but also rests upon the surrounding gum, to which, not unlikely, it will be found to have formed attachments. Still another form is exhibited in Subfig. 4. Here a tooth-root may be below the border of its socket. No pulp projects from nor is seen upon the face of the canal; a break exists, however, upon one side of the root, out of which grows the fungous mass. Such a growth, little by little, insures the absorption of the alveolus on the side at which it projects, and rising, finally, above the free face of the gum, exhibits a condition well calculated to mislead. This tumor is readily distinguishable from the odonto-periosteal growths by the nature of the proliferations, these being of a livid asthenic appearance, not common to any other of the epulides. This last form of tumor is not at all frequent; it depends for its existence on such a break in the continuity of a tooth-root as seldom occurs. It is to be remembered, however, that a decay commencing at the free surface may run along the root of a tooth, and that out of this track the fungus may project.

Fungus of the dental pulp, of an extent and character described in conditions 3 and 4, is, however, as infrequently to be met with as conditions 1 and 2 are common.

A form of epulides simulating, as location is concerned, the pulp-fungus, is exhibited in Fig. 554. In this instance the tumor, while seen to arise from the pulp-cavity of the fang, when traced, is found to be an outgrowth of that

FIG. 554.

Odonto-periosteal growth simulating pulp-fungoid.

FIG. 555.—ULITIC TUMOR.

aspect of the odonto-alveolar membrane which adjoins the bone; the growth has passed through an opening in the root, and has progressed, as shown in the dotted lines, until, reaching the margin, it becomes exposed. The drawing should show the tooth in section.

To mistake this last form of tumor for the ordinary pulp-fungus would be to err necessarily in the treatment, the four conditions represented in Fig. 553 requiring either the destruction of the fungus by means of cauterization, or the extraction of the affected fang; while this last necessitates removal of a portion of jaw found implicated.

Still another form of epulic tumor* consists, as exhibited in Fig. 555, of an ulitic outgrowth, the result of irritating influences associated with double approximal dental caries; the gum-tissue, semi-strangulated, rises and fills the cavities. A similar expression of tumefaction is not infrequently met with in the interspace existing between teeth in which the V-cut has been made; indeed, these growths are encountered where they have not only completely filled such interspace, but so projected above the grinding face of the teeth as to be injured at every occlusion of the organs. The treatment consists either in extracting one of the approximating teeth, in so altering the relation of the necks of the teeth as to obviate the strangulation, or, after cutting away the mass, and by means of cotton wedges forcing the structure entirely clear of the cavity, in restoring by contour filling to the original relation of the parts. A temporary curative consists in keeping the sites of projection stuffed with plugs of cotton saturated with gum sandarac.

Reviewing the tumors just described, it is seen that, with a single exception,—that shown in Fig. 554,—all are, very simply, self-explaining.

Epulo-Erectile Tumor.—This is a vascular growth, the analogue of the nævi; it is commonly associated with the capillary system, and has its character marked by its variation in size and appearance as influenced by the conditions of the circulatory system at large,—excitement increasing its turgescence, quiet reducing it. Turgid in a general appearance, epulo-erectile

* This, from its simplicity, is to be classed with the pulp-fungoid, as it is equally self-explaining.

tumors present, however, decided features of variation. Thus, some represent a congeries of vessels which would seem to need the merest scratch to result in profuse hemorrhage. A common feature of vascularity exists in a likeness with the tissue of the corpus cavernosum penis, the cellular stroma being thinned into a series of communicating cells, which are found congested or otherwise, as circumstances control. Erectile tumors are also not infrequently found quite solid, simulating fibrous structure: this depending on some vascular perversion which has produced excess of the fibro-cellular element; indeed, it sometimes happens that spontaneous cure is effected through solidification. The surgeon, acting on such a hint, employs the process as one of his means of cure. Of the various forms of epulo-erectile tumors, the spongoid is by far the most common,—is, indeed, to be placed as the type; stimulation of the circulation will fill it at times to bursting; pressure may almost completely empty it.

Whether an erectile tumor come under the definition of arterial, venous, or capillary, depends simply on the vessels most involved. A term, aneurism by anastomosis, applied to these growths by John Bell, had its foundation without doubt in that variety in which the arterioles are implicated. This species, when congested, presents the scarlet hue, and, if accidentally wounded, is most troublesome, as control of hemorrhage is concerned. The venous variety is made up of a congeries of venules: the tumor is dark and commonly sluggish in aspect. The capillary form is intermediate between the arterial and the venous, and constitutes the spongoid form. The underlying bone of the erectile epulides will almost invariably be found involved, being softened and spongy. Erectile tumors sometimes, though rarely, make their first appearance as a red pimple upon the gum, growing in a polypoid form until they may attain the size of a cherry.

TREATMENT.—Tumors of this class involving the bone as they do, can be cured only by a section which includes that structure. A diagnosis is easily secured by passing an exploring-needle through the soft tissue: if the hard parts be implicated, the needle is found to enter freely, and may be moved about among the loose stroma; if the needle do not pierce the bone, and the tumor be at all pedunculated, it may be strangulated; or, even where the base is broad, the ligature may yet be used, transfixing first the base with one or more needles for the proper directing of the thread.

A second mode of treatment, applicable when the bone is not involved, is by injection; the ordinary hypodermic syringe being employed, charged with one of Monsel's solutions of iron, with a very concentrated tincture of iodine, or with the glacial acetic acid. Any substance which will coagulate the blood may be used, and not infrequently is found to answer a satisfactory end. The employment of this means of cure is not, however, unattended with risk from emboli. Still another method consists in the application of caustics, such as chloride of zinc, Vienna paste, the London paste, or the strong mineral acids. An anxiety, however, which must always accompany the employ-

ment of these agents, is the fear of hemorrhage on the casting of the slough; and such anxiety is so well grounded that experience soon teaches that the means of cure is applicable only in the least vascular of the growths.

The seton, as an agent, finds not infrequently happy service in the erectile epulides. The needle used is that employed by the surgeon in passing ordinary ligature silk. The seton may be soaked, or not, in some caustic solution; the thread is always to be the thickest that the eye of the needle will admit, in this way insuring the occlusion of the transfixed vessels and guarding against bleeding. When hemorrhage associates itself with such transfixion phénol sodique may be freely applied to the points of puncture; or, if this do not answer, tannic acid is to be drawn into the wound by coating the seton and moving it gently backward and forward. Should even this not control the bleeding, a knitting-needle heated to whiteness may be thrust through the wound, or the saturated tincture of iodine be injected. On two or three occasions the author has found himself enabled to control such a hemorrhage by casting a ligature around the parts, as best might be done, thus cutting off the circulation; indeed, the practitioner, using the seton, will on some occasions find the employment of a strangulating ligature forced on him. Such hemorrhages are, however, very infrequent, and may not be met with in one out of a hundred cases. They are most commonly associated with the arterial variety of tumor.

Electrolysis is another means of treatment sometimes employed (see *Treatment of Nævi*), and is highly lauded in its application; the object should be the coagulation of the blood, rather than a cauterization of the stroma of the tumor. Although destruction is preferred by many as the best service of electrolysis, it is to be recognized that the mode of using the agent suggested has the advantage, inasmuch as it is a certain assurance against hemorrhage.

A practice of "piecemeal removal" has been introduced into English surgery, consisting in teasing or tearing or twisting away fragment after fragment; the principle being to avoid hemorrhage, as in the torsion of arteries. This is a practice, however, which the inexperienced will do well to avoid; not but that, in certain cases, it is a good plan of treatment, but frequently it has troublesome associations, not the least of which is active hemorrhage.

Still another treatment, employed where a tumor has no association with the bone, is the application of the serres-fines: these are spring-wire forceps; they are to be made of a size proportioned to the requirements, and are to be clamped over the mass. In using these clamps, regard is to be had to the nature of the serrations, these being used deep or shallow according to the vascularity of the part to be grasped; the pressure of these clamps will not infrequently result in a coagulative and inflammatory action, which proves the cure of the tumor.

An application somewhat on the principle of the serres-fines is the employment of pressure. The parts having first been emptied by forcing out the blood, a well-adjusted compress is to be bound tightly over the tumor, and

retained in place continuously for several days: this treatment, when the growth is small, will often effect a cure. An admirable plan of securing a desired pressure is to take an impression of the jaw on which the tumor is situated, and, obtaining thus a model, make a plate precisely as for an artificial denture, having bands, to hold it firmly in place, fitted to clasp neighboring teeth; by now placing over the tumor a layer of cotton-wool, and compressing it by fitting the plate in place, pressure of a very effective type will be found to have been secured. Advantage is gained by employing astringents in conjunction with the plate; saturating the wool with a diluted preparation of Monsel's solution of the persulphate of iron answers a very good purpose. Tannic acid may be used.

The erectile forms of the epulides, while not so clearly explainable as the pulp-fungoid, are yet to be esteemed as of local signification and of innocent type. An analysis of an erectile growth exhibits it as a tuft of vascular tissue. In it is to be recognized vascular anatomical perversion.

From the consideration of the epulides of self-explainable character we proceed to that of forms, all of which experience assures us are best esteemed, and most wisely treated when accepted, as belonging to the second class. The author so treats them because, while they may not all express the cancer vice, he cannot prove that they do not. By treating them with the latitude given to carcinoma, nothing detrimental to an innocent growth is done, but everything in the way of cure possible (with our present knowledge) should the disease be malignant. This practice the writer himself shall continue to pursue—finding in it the commendation of his highest intelligence—until the typical something is discovered which shall allow him to know a cancer in all its expressions, just as to-day one might not easily be deceived in a hernia or in a ranula.

Epulides not Self-explaining.—We pass now to that consideration which includes every other epulic tumor met with in the mouth: histologically, we would class these as myeloid, sarcoid, myxoid, fibroid, etc.; clinically we are not interested in giving them any name at all; the single concern with our classification being as to self-explainability or non-explainability. With the epulides the author has had much to do; he may be pardoned in suggesting that in the direction few have had, perhaps, wider opportunities of observation; as the result of such an experience, he believes that he advances the highest truth, and that which will be found to redound to the greatest good of patients, when he teaches *that a growth is to be called, viewed, and treated as cancer which cannot be proved not to be cancer.**

* The author of course sees that here are involved the learning, experience, and judgment of an observer. But with all grades of intelligence, he must perceive his position equally to hold. A man can handle and treat a matter only as he comprehends it; it is the fatal misfortune of all cancer afflicted patients that the highest intelligence has not yet arrived at the apprehension of what cancer is. It is a great misfortune for a patient to fall into the hands of a man who does not know—to the extent of the known—what is not cancer.

Cancer is treated in consideration of a twofold expression belonging to the condition. When infiltrated, that is, when parts adjacent to a tumor are in marked sympathy, being engorged and shading dimly into healthy structure; when glands are indurated and dyscrasia is marked; then, not knowing any antidote to the virus, a surgeon can do nothing for a patient. When, on the contrary, a cancer lesion is strictly localized, when a tumefaction does not shade gradually away, but possesses a strict individuality, like, for example, the concentric fibroma, then, let it be epulic, or of whatever situation, ablation is indorsed, on the principle of assistance rendered to a something which offers expression of attempt to help itself.

Accepting the premise, we find in the character of an epulic tumor the practice pertaining to it. If the premise be right, indecision or confusion has no occasion for existence.

Presenting Figs. 556, 557 as illustrations of some of the various expres-

Epulic Tumors.

Fig. 556.

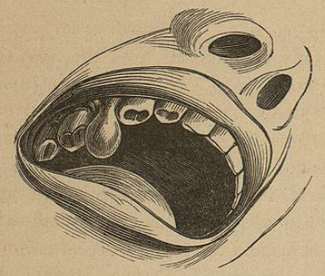
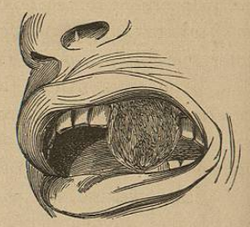


Fig. 557.



sions of the epulides, attention is to be directed, with benefit to many, perhaps, to a description of the cases, together with the practice adopted, and the results.

Fig. 558*a*.

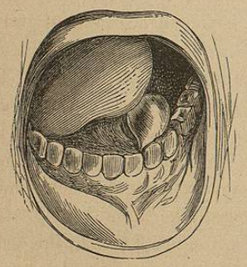
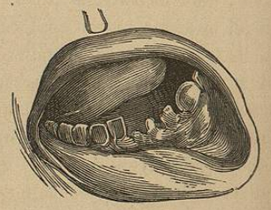


Fig. 558*b*.



Case, Fig. 556.—Some four years ago, Mrs. T., the sister of a medical friend, was brought by the brother to the office of the writer for consultation on a tumor (about the size of an ordinary pea) growing from the alveolus of

an upper molar tooth. This tumor was thought to belong to the class pulp-fungoid. There was a broken palatine fang in the jaw, but so deep as to be

Fig. 559.

Fig. 560.

only fairly discernible to the probe; the origin of the growth could not be seen, only inferred; by separating carefully the alveolus from the fang, the root, after some little trouble, was gotten from its bed. The little tumor proved to be an outgrowth of the periodonteal membrane, and not an excrescence from the pulp; in character it was distinctly and decidedly fibrous—it was, then, histologically to be classified as an epulo-fibroid tumor. It did not look like a growth from the periodonteum, but rather as if its origin was in the crusta petrosa, and as if it had carried the membrane before it, somewhat as the infundibuliform fascia is made a tunic to a descending intestine in an oblique inguinal hernia. The removal of the fang brought the growth cleanly away. Of course, no scraping or cutting of the parts was necessary: the growth was evidently an emanation of the dental aspect of the periodonteum, and had in no way involved its alveolar association. No treatment of any kind outside of the removal of the tooth was employed. The patient remains perfectly cured. This is the only growth of just such relation ever met with by the author.

Case, Fig. 557. Epulo-Erectile Tumor.—Mrs. J., presented herself with a livid, threatening-looking tumor, the size of a hickory-nut, occupying the left alveolar face of the upper jaw, the growth extending from the lateral incisor tooth back to near the tuberosity. This tumor diminished in size during sleep, and increased at the time of any excitement which tended to accelerate the circulation; sometimes it seemed like a solid body, at other times like a spongy mass; it was evidently erectile in its nature, the analogue of an ordinary nævus. It was an epulo-erectile tumor.

Separating the growth from the gum, its association with the periosteum was plainly evident; the probe revealed involvement, as well, of the neighboring bone. An operation, which resulted in complete cure, was performed as