cysts, is in that class, very well named the "cysto-succulent." These are sarcomatous tumors, the stroma of which is made up of very loose fibro-cellular tissue. They might well, in their contents, be likened to a watermelon, solid enough on section, but compressible to a few shreds. The fibrous contents of the stroma are, however, always a distinguishing sign. These tumors are very rare, and particularly so about the bony structures.

Müller thus described a variety of these cysts of sarcomatous growth, which he calls cysto-sarcoma phyllodes. The tumor forms a large firm mass, with a more or less uneven surface. The fibrous substance, which constitutes a greater part of it, is of a grayish-white color, extremely hard, and as firm as fibro-cartilage. Large portions of the growth are made up entirely of this mass, but in some parts are cavities or clefts, not lined with a distinct membrane (an exception to the rule in cystic tumors). These cavities contain but little fluid, for either their parietes, which are hard, like fibro-cartilage, and finely polished, lie in close apposition with each other, or a number of firm, irregular laminæ sprout from the mass and form the walls of the fissures, or excrescences of foliated or wart-like form spring from the bottom of the cavities and fill up the interior. These excrescences are perfectly smooth on their surfaces, and never contain cysts or cells. The laminæ lie very irregularly, and project into the cavities and fissures like the folds of the psalterium in the interior of the third stomach of ruminant animals. Sometimes the laminæ are but small, and the warty excrescences from the cysts are very large, while in other instances both are greatly developed.

Cartilaginous, or the enchondromatous, tumors of Müller, are, for all practical purposes, to be classified with the sarcomatous, for while it might demand some little stretch of the imagination to convert a cartilage into a fleshy mass, yet surgically the species are very much alike,—that is, both are little amenable to the action of sorbefacients, and both are better treated by the knife than in any other way.

As we understand the osteo-sarcomatous tumors proper to be outgrowths associated commonly with periosteal membranes, so we are led naturally to ask ourselves as to the cause of their formation. This may be conceived to be of twofold relation: first, as a result of local irritation; second, as a relation of constitutional condition; and, still again, we may combine the two, laying the predisposing cause on the one, the exciting on the other.

The attention of the author was once directed by William Gibson, late Professor of Surgery in the University of Pennsylvania, to a case markedly illustrative of this latter condition. An old gentleman, Mr. F., seventy years of age, was struck on the cheek by a stone. Soon he had growing from the site of the injury a tumor, diagnosed by Professor G. as osteo-sarcomatous. The growth of the body was so rapid and so formidable as to incline to the view of its intimate relationship with malignancy. Later the patient died from it. No one would doubt the twofold relation of such a tumor.

When osteo-sarcoma takes on this rapid growth, its malignancy is not to be



doubted; when the development is slow and regular, and particularly if the origin can be traced to some local irritant, extirpation may be expected to result in relief.

Osteo, and simple fibrous tumors of the sinus maxillare, must not be mistaken, as has too often been the case, for polypi of the nares. It sometimes happens that these tumors, particularly the softer kinds, find their way through the outlet of the sinus into the nostril, and there simulate very closely a common fibrous polypus; such tumors have been often highly aggravated by operations founded on such mistaken diagnosis. Again, polypi of the nostrils may find their way into the sinus by absorbing, through pressure, a passage, and, enlarging, represent very fairly the ordinary fibrous tumor of that cavity. Now, pathologically speaking, being about one and the same thing, it would be little difference where or how the growth should develop, but as operative proceedings are concerned, a mistake of the kind becomes an awkward matter.

As regards changes common to sarcomatous tumors, they may be considered under the heads of softening, suppuration, and malignant degeneration.

Softening, as described by Dr. Humphrey, appears to take place in two ways:

First, as a chronic process, affecting some circumscribed portion of the tumor, which is usually at or near the centre. The change is observed to commence with a slight discoloration, a yellowish or dark tinge, which is followed by loosening or by incipient disintegration of the structure; at the same time a line of demarkation is formed around the altered portion, which portion becomes separated, like a sequestrum, from the surrounding mass. Both the detached part and the cavity are at first rough and thready on their opposed surfaces; the former undergoes still further disintegration and solution, becoming broken up into a number of smaller fragments, these floating about in a dark, dirty, turbid fluid, and likely ultimately disappearing.

The process of destruction may go on in the adjacent portion of the tumor, enlarging the central cavity till the whole is reduced to a fluid or a semi-fluid mass, walled in by the capsule of the tumor, which now stands in the relation of a cyst-wall to the disorganized contents.

In some cases the softening operation is completed without extending the circumference; the ragged processes hanging into the interior of the cavity being removed. The excavation acquires a smooth lining, and looks like a simple cyst lying in the centre of the tumor.

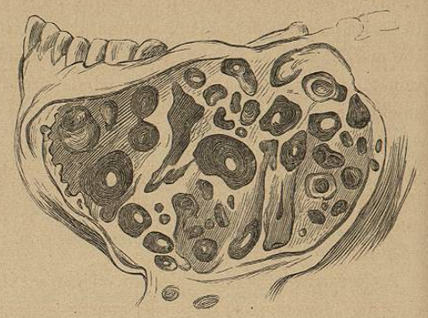
A second mode in which softening takes place is more rapid and diffused, the whole or the greater portion of the tumor being affected at once. The change commences with the infiltration into the mass of a serous fluid, whereby its texture is loosened and its components separated; at the same time the tissue of the growth is softened, and interstitial absorption is set up in it.

As the result of these processes combined, a tumor is soon broken up into detached fragments, and reduced to a diffluent pulp, or it may be com-

pletely liquefied. These changes, Dr. Humphrey suggests, are occasioned by some altered nutrition analogous to inflammation; they may be induced by

FIG. 587.—OSTEO-SARCOMATOUS TUMOR.

FIG. 588.—CYSTO-SARCOMA.



some accidental cause, as an injury; nevertheless they are not necessarily attended with any constitutional disturbance at all corresponding with the extensive destruction which is in progress.

SUPPURATION.—This is very rare; it may begin internally, or may progress from without inward.

The tumor represented in Fig. 587, from the person of an old woman, commenced within the antrum, and progressed four years before causing death. In character it was fibro-plastic, with here and there osseous masses.

Fig. 588 represents a cysto-sarcoma. It is a section of the diseased lower jaw of a man aged about thirty. Death occurred within a year, from return of the growth after operation.

**Histoid Mixed Tumors.**—The tumors described as fibromata, sarcomata, etc., possess their appellation from a distinctiveness of tissue which characterizes them in their purest expression. In the histoid mixed, two or more elements are found conjoined, thus as is seen, confusing necessarily—*not a clinical*, but the histological—classification. When, as has been queried by Rindfleisch, besides distinct lipomatous constituents, distinct chondromatous features are found; when sarcoma nodes and nodules are deposited in an enchondroma, we do not know whether we should name the thing enchondroma lipomatodes, or lipoma cartilagineum, or sarcoma cartilagineum, or chondroma sarcomatosum. This embarrassment recurs with the question as to the clinical character of the sort of tumor, the prognosis, etc. The histoid mixed tumors will, in the mouth, be found more common than the pure histoid; their nature and character are to be appreciated from what has preceded.

SCIRRHUS.—Although the very rarest of the expressions of the cancer vice as met with inside the mouth, except as relation with the tongue is concerned in shape of epithelioma, yet as a form of the dyscrasia clinical attention will

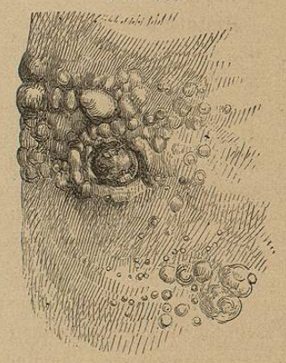


occasionally be directed to the condition. Scirrhus is a disease of adult life, rarely appearing before the age of forty, and even then seeming, in its isolation, a something concentrating itself for purposes of operative relief. Commencing in the gum or alveoli, and secondarily affecting the bone, scirrhus appears as a small nodule, incompressible, having indeed a lead-like feel. What now is to be its progress depends pre-eminently on circumstances. The author has at the present time under charge a scirrhous tumor associated with the periosteum immediately beneath the left malar bone: this tumor grows neither larger nor smaller, being held in abeyance either by the lightness of the dyscrasia or—what amounts to precisely the same thing—by the resistive powers of an antagonizing life-force. A second case is a lady, still under observation, from whose under lip, two years back, was removed a tumor yielding the microscopic expression of scirrhus carcinoma, and with whom there has been no return of the disease.

As a scirrhus advances in its development, there associates with it a lancinating character of pain particularly diagnostic, the presence of which is commonly admitted to decide any existing doubt. Still advancing, the overlying structures become implicated, the skin contracts and adheres, and soon shows an increased vascularity; later in its progress the tumor puts on the character of a pointing abscess, or ulcerates with a lupoid expression, or, it cracks; finally the telangiectatic expression is assumed, exuberant granulations springing forth, giving to the patient the disgusting and depraving associations of the fungus hæmatodes, soon wearing out vitality.

The meaning of the multiplication of scirrhomata is one of the most interesting, as it is certainly one of the most important, matters of surgery. First appearing as a solitary nodule, the tendency in the condition to increase its expressions is a sufficiently recognized fact.

FIG. 589.



After the removal of a single scirrhous nodule, the recurrence, if it take place, is apt to be in the form of numerous secondary papules, or else with a medullary expression. Fig. 589 exhibits photographically this disease as it made its reappearance over the mammary region of a lady from whose axilla the author had removed a scirrhous gland.

Concerning duration, scirrhus is apt to complete its history in from twenty to forty months, although, as has been remarked, cases may remain in abeyance for many years.

Section of an amputated malignant scirrhus shows a concave surface, deemed to be diagnostic of malignancy; it is smooth, being indeed very similar to the section of a fresh turnip; scraping the surface affords what is commonly called the cancer-juice, the microscopic cell aspects of which are portrayed in Fig. 590.

It will be seen from the great variety of feature exhibited in these cells that there is here no characteristic cancer-cell. Judgment of such growths is

FIG. 590.

A microscopic view of the cells of hard cancer, showing their varied shapes, with the numerous free nuclei, as seen in scirrhus of the breast. Magnified 500 diameters. (After Paget.)

to be founded on the common heteroclitic expression. Fig. 591 shows a section of a scirrhus taken from the centre of a cancer of this form undergoing atrophic changes. A common shape of the cells seen is the caudate.

FIG. 591.

Microscopic appearance of scirrhus carcinoma.

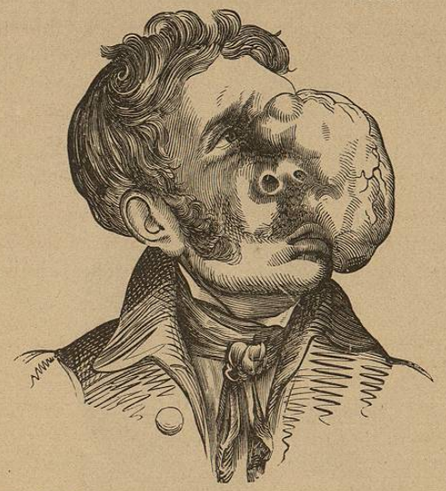
ENCEPHALOMA.—To the mind of the writer, encephaloma expresses the very fulness of the meaning of malignancy. It is crasis, which, either through its own force, or through non-resistance on the part of the patient, overwhelms and quickly destroys; all tissues melt before it, for none may combat it. Early ulceration and the protrusion of fungus hæmatodes form the common history of encephaloma, the cases being exceptional where a patient survives over two years.

Pure encephaloma of the jaws has, in its inception, nothing to distinguish



it from the most simple of sarcomata; once started, however, the greater activity of the expression exhibits itself, showing futility of treatment; par-

FIG. 592.—AN ENCEPHALOID TUMOR.



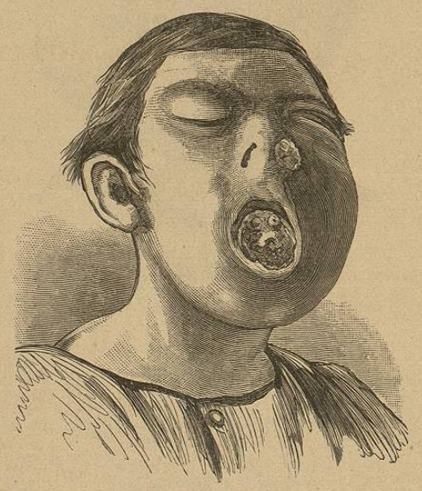
ticularly does this find illustration in the infiltrated appearance of surrounding parts. If the idea of cutting has suggested itself, it is quickly enough

FIG. 593.—AN ENCEPHALOID EXPRESSION OF CANCER IN A YOUNG CHILD.


abandoned by reason of the absence of any distinct line of demarkation. One is made to feel that in the lack of a specific he is powerless for good.

Encephaloma does not seem to the author justly described—certainly not at all so from the clinical stand-point—when an impression is conveyed as to encapsuled character, for never perhaps is it the case that inside of any capsule is confined the heteroclitic expression, cells, differing from the normal tissue, being found infiltrated not only throughout the substance of such capsule, but also through all the neighboring parts. Presence of capsule is apt to signify absence of malignancy.

FIG. 594.



Encephaloid tumor.

Fig. 594 shows a case in the Presbyterian Hospital at this present time of writing which has the following history. Four months back the patient, a boy thirteen years of age, was attacked with pains in the jaw, his face and general condition being, apparently, in every other respect normal. Examination, made by his physician, revealed a molar tooth considerably carious, which tooth, under the impression that it might be the cause of the discomfort, was extracted. The socket, in place of filling up after the ordinary manner, threw out a fungous mass, disease being then discovered in association with the antrum of Highmore. From the day of the extraction to the present one proliferation has run riot. As seen, the whole side of the face is projected, the eye of the affected region has gone blind, the nostril is filled with the growth, which shows from it, while the oral cavity is so completely crammed that scarcely more than breathing-room remains. The patient, as will be inferred, is in a state of inanition rapidly approximating death. Microscopic examination will surely reveal the histological expression of the tumor as that of encephaloma. No other form of carcinoma advances so

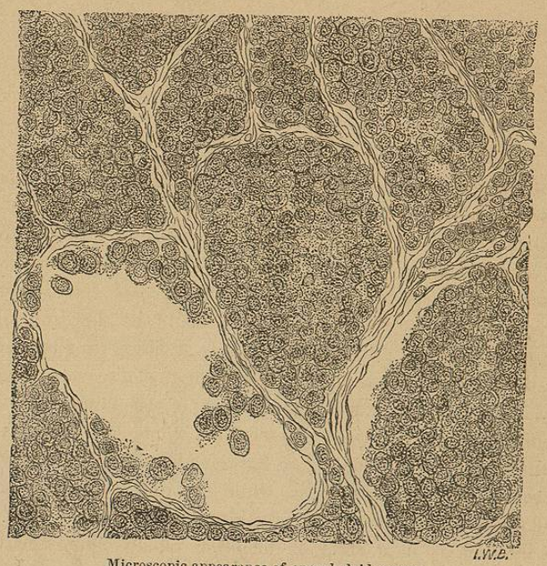


rapidly. The writer attended a consultation on the case, the conclusion being adverse to an operation.

FIG. 595.

Fig. 595 exhibits the case of a child six years of age, brought to the Hospital of Oral Surgery, where the growth was of the usual rapid extension,

FIG. 596.



Microscopic appearance of encephaloid cancer.

and attended with the pain and expression of dyscrasia, so characteristic of

encephaloma. The neoplasm, as seen, is about the size of the head itself. To the touch it was semi-elastic; it was marked by veins of large size irregularly distributed over the surface. Progress was as regular as it was rapid. Patient died two months after being exhibited at the clinic.

Section of an encephaloid tumor, as is to be inferred, presents varying expression: it is sometimes quite brain-like or it may, as it shades into less malignancy, simulate scirrhus: occasionally it will be colored, such coloring being the pigment-granules of melanosis,—melanoid cancer.

FIG. 597. FIG. 598. FIG. 599.

Fig. 597. A microscopic view of the nuclei of soft medullary carcinoma embedded in a molecular basis substance or stroma without cancer-cells. Magnified 500 diameters. (After Paget.)

Fig. 598. A representation of various fully-developed cells and nuclei of medullary carcinoma, as seen under the microscope. Magnified 500 diameters. Some of them are larger than the average, others more peculiarly slender, elongated, strip-like, or caudate cells, with a darkly-dotted granular nuclei. (After Paget.)

Fig. 599. A representation of the dotted nuclei of medullary carcinoma of the breast. Magnified 500 diameters. (After Paget.)

FIG. 600. FIG. 601. FIG. 602.

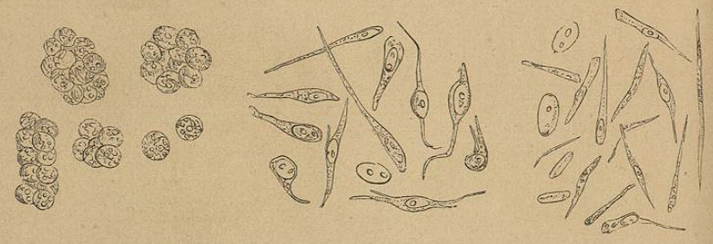


Fig. 600. A representation of the clustered nuclei of medullary cancer, composed almost exclusively of round, shaded nuclei, with three or four shining particles, arranged in groups or clusters of five to twenty or more. Magnified about 400 diameters. (After Paget.)

Fig. 601. A representation of the caudate and variously elongated cells of a firm medullary cancer. Magnified 450 diameters. (After Paget.)

Fig. 602. Small elongated cells and nuclei with a nucleus of the ordinary shape, from a firm medullary cancer. Magnified 500 diameters. (After Paget.)

Plate IX., introduced simply as a clinical study, represents the appearance and position of some of the various tumors met with about the neck. All of them are extreme cases as size is concerned.

Plate IX.

Fig. 1.

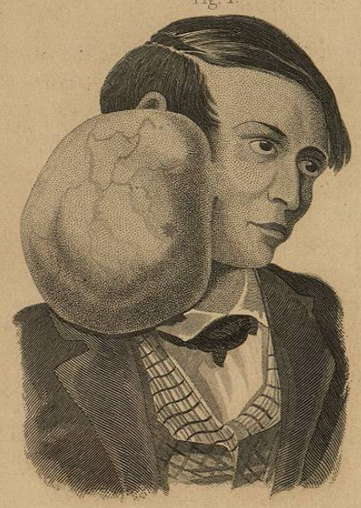


Fig. 2.

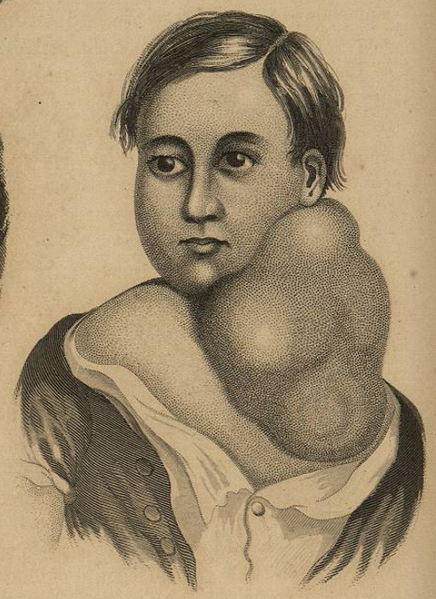


Fig. 3.

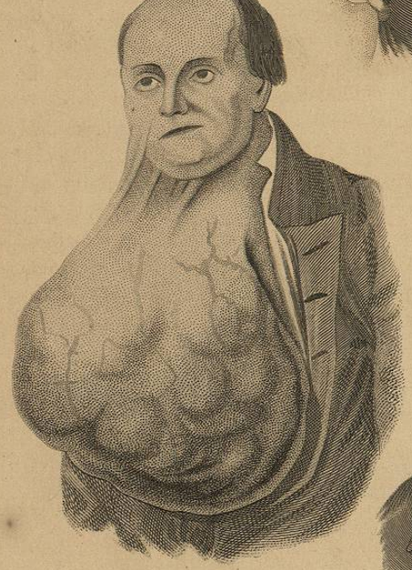


Fig. 4.

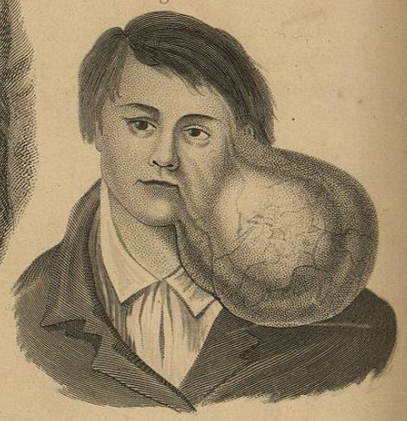




FIG. 1.—A large cystoma of the right parotid region, caused by the development of a sebaceous follicle in consequence of a blow upon the part. Commencing as a lump the size of a nut, this tumor gradually increased to nearly the size of the head; gave exit at one time to sebaceous matter; had a broad base; was nearly immovable; had the veins enlarged upon its surface, and showed a small ulceration in front, from which, fetid, acrid, and bloody sanies had escaped. As the tumor enlarged, the jaw became closed, sensation of the face diminished, and there were all the other symptoms due to pressure on the vessels and nerves of the part. The tumor differs in appearance from scirrhus of the parotid gland in its size and period of development. It was readily removed, and is represented as an example of one of the class of growths of the parotid region not involving the parotid gland.—*After Auvert.*

FIG. 2.—Large adenoid tumor of the neck dependent on degeneration of the lymphatic glands of the neck. Arising as a small swelling caused by an enlarged gland below the angle of the jaw, it gradually increased until it occupied the entire side of the neck, involving many glands, and reaching from above and behind the ear to below the clavicle, so as to turn the head to the opposite side. Its appearance was that of an irregularly lobulated mass; it was unaccompanied by pain, was perfectly firm and hard, and gave no sense of fluctuation at any point. Under the use of chloroform it was successfully removed by Mott.—*After Mott.*

FIG. 3.—Appearance of an immense adipose or lipomatous tumor of the neck. This tumor was not painful; had no pulsation; was formed of numerous large lobes, with the superficial veins distended over them, and was attached to the neck by a large pedicle which extended from the angle of the lower jaw on the right side down to the sterno-clavicular articulation, its weight being so great that the patient could hardly retain the erect position. The tumor was found to be covered by a strong capsule formed of the surrounding cellular tissue, and to have originated in a hypertrophy of the surrounding adipose tissue.—*After Auvert.*

FIG. 4.—A large cystoma of the left parotid and submaxillary regions, which was to the touch semi-elastic, unequally lobulated, and due to a chronic irritation of one of the sebaceous follicles, the duct of which had become closed, and thus caused a retention and degeneration of its secretion.—*After Auvert.*