

white or reddish in color, and of soft consistence. Often they are very vascular. They generally develop at the time of puberty (Wölfler).

Papilliferous Adenoma (Fig. 2332).—There are two types: (a) the papilliferous adenoma which develops from the walls of old cysts; (b) the true cystoma which closely resembles the papilliferous adeno-cystoma of the ovary. This important class of thyroid tumors lies on the border-line between the benign and the malignant growths.

Wölfler was the first to study them carefully; but all his cases were examples of papilliferous epithelial growths from the walls of preformed cysts. Such a tumor is pictured in Fig. 2333. The second type of papilliferous growth is shown in Fig. 2335. It is a very rare form. I have not found it described in the literature. My collection includes two cases, which are quite similar in appearance. The one photographed in Fig. 2334 was successfully removed by Dr. F. B. Lund at the Boston City Hospital. It was surrounded by a fibrous capsule. It will be described by Dr. H. C. Low in the

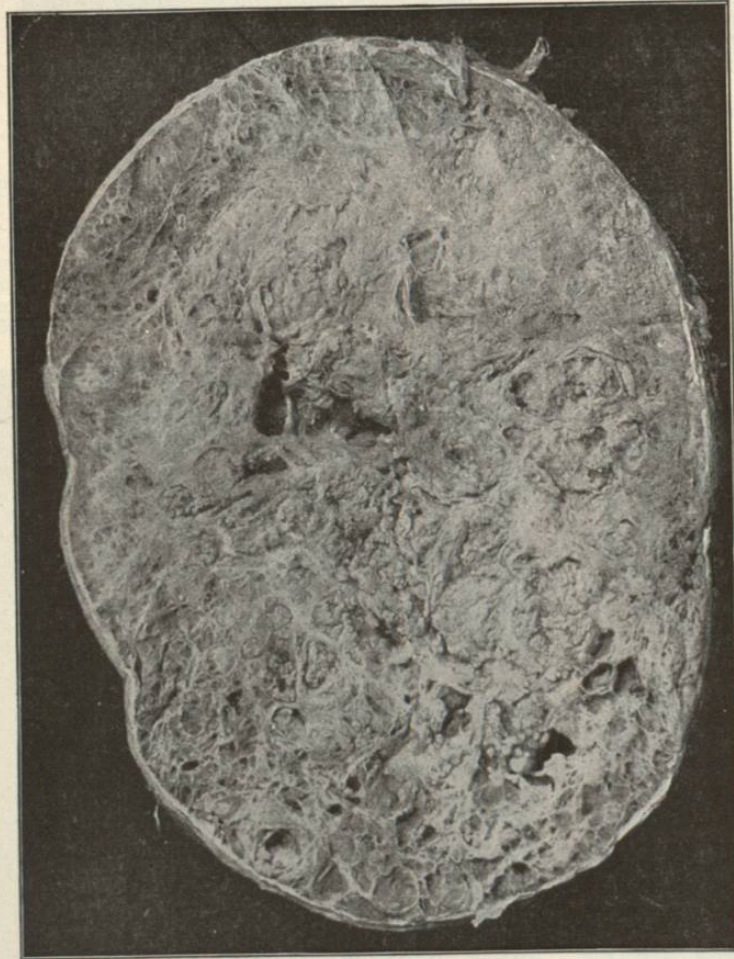


FIG. 2335.—Papilliferous Adeno-cystoma. (Natural size.) There are dendritic ingrowths into cystic spaces. The appearance of the tumor before removal is shown in Fig. 2334.

Medical and Surgical Reports of the Boston City Hospital, 1901. Dr. Low has searched through the museums of the London hospitals, which are rich in thyroid tumors, but has not found a single example of this type.

The papilliferous tumors consist of branching processes lying within a definite cyst or cystic spaces. The growth

is composed of delicate connective-tissue stalks covered with cuboidal or columnar epithelium. There is rarely any colloid formation, but occasionally a vesicle is seen containing colloid. The stroma may undergo mucoid degeneration. Sometimes the tumors assume malignant properties and invade the surrounding tissues. In a papilliferous growth which developed on the inner wall of a cyst (Fig. 2333) I have seen numerous mitotic figures. Just as the fibrous wall of ovarian cysts frequently prevents the extension of adenocystoma into the peritoneal cavity, so in this thyroid tumor the wall of dense fibrous tissue acted as a barrier to prevent the infiltration of the neighboring structures.

The coalescence of simple colloid cysts may give rise on naked-eye examination to the false impression of papilliferous intracystic growths.

Goitres have frequently a rich blood supply. Foetal adenomas are especially vascular. The term *vascular goitre* is frequently used. I agree with James Berry that the term is a bad one and should not be employed. He says: "If it be intended to signify a goitre composed mainly of blood-vessels, then it is a name for what probably does not exist, for there is no evidence of the existence of any such goitre."

MORBID ANATOMY.—The size of thyroid tumors varies from small nodules, 1 cm. or less in size,* to masses as large as a man's head (Alibert, Keser). Such monstrous enlargements are, however, very rare, and probably are seen only in regions where the endemic disease abounds. In this country the endemic goitres are of small size and would attract little attention in Switzerland. The thyroid tumors that I have examined in Massachusetts have rarely measured more than 8 cm. in diameter. The tumor depicted in Figs. 2334 and 2335 is one of the largest in my series. The tumors generally occur singly, but they may be multiple. There is not uncommonly a diffuse enlargement of the entire thyroid, but usually one lobe is affected. The right is more frequently involved. Brunet seeks to explain this predisposition on the ground that the venous outflow is normally more impeded from the right lobe than from the isthmus or left lobe. Tumors from the isthmus are rare. A photograph of a specimen in the Warren Museum is shown in Fig. 2336.

The thyroid growths which develop anteriorly are visible on inspection even when they are of small size. Tumors growing posteriorly from the lateral horns may produce pressure symptoms before their existence has been discovered. They may form *retro-oesophageal goitres* which frequently escape detection.

Adami performed an autopsy on a woman who died quite suddenly from dyspnoea. She had suffered from previous paroxysmal attacks supposed to be asthmatic. Adami

found that the trouble was due to a localized enlargement of the thyroid.

Large tumors sometimes fill up the space between the

*I have seen a discrete nodule, with the structure of a foetal adenoma, which was only 2 mm. in size. Wölfler would probably regard it as an embryonic rest.

chin and the sternum. Huge pendulous goitres have been described which projected over the front of the sternum to below the level of the xiphoid cartilage, and instances are on record of goitres that have reached as low as the waist (Alibert). In a case published by P. Bruns the weight of the tumor produced lordosis in the cervical and kyphosis in the thoracic region of the spine. The tumor measured 70 cm. in greatest circumference. These enormous goitres are probably always cystic. The pendulous goitres are connected with the thyroid by a band of parenchymatous or connective tissue which carries blood-vessels.

Tumors developing from the tip of a lateral lobe may appear in the submaxillary region near the angle of the jaw. The nature of these *submaxillary goitres* and their connection with the thyroid has often remained unrecognized. Tumors of the isthmus lie in the median line in front of the trachea. Those arising from a lateral lobe by pushing the trachea to one side may also take up a position in the middle of the neck.

The substernal and intrathoracic goitres form an important class. They are usually connected with the lower part of the lateral lobes or the isthmus. Some thyroid tumors grow down behind the sternum into the anterior mediastinum. The substernal goitre is the *goitre plongeant* of the French. They are a very dangerous class of tumors. Owing to their situation they frequently cause severe dyspnoea by pressure on the trachea. Sometimes they become visible only during expiration, sometimes they lie entirely behind the sternum. A peculiar form of substernal tumor is the "wandering goitre" described by Wölfler. The tumor in his case did not rise and fall during respiration, but at times it actually changed its position. It was a small tumor, and when it migrated into the thorax it could be neither seen nor felt, but it produced severe dyspnoea by pressure on the trachea and circulatory disturbances by pressure on the right innominate vein. Reuter had a somewhat similar case. The tumor developed from the right lateral lobe. Upon coughing it rose above the sternum.

McWhinnie described a goitre which descended behind the sternum as low as the bifurcation of the trachea. Retrosternal goitres, as a rule, however, do not extend so deeply into the thorax and are not so large as those that grow beneath the clavicle. The latter may attain an enormous size and greatly compress the lung. Dittrich found a large thyroid cyst nearly filling the right pleural cavity. Above the cyst was thyroid tissue. The right lobe of the thyroid gland was missing.

These intrathoracic growths arise as follows: 1. Thyroid tumors may grow downward into the chest. 2. Tumors may develop from thyroids which are situated abnormally low in the neck. Kocher has introduced the term "thyreoptosis" for a condition analogous to other splanchnoptoses. 3. Tumors may arise from congenital prolongations downward of the thyroid gland (Krönlein). 4. Tumors may develop from accessory thyroids.

The first mode of origin is the most common (Braun). Usually a parenchymatous pedicle, it may be a thin one, connects the tumor with the thyroid gland. The connecting band may disappear or become converted into fibrous tissue. Then the genesis of the tumor cannot be determined. It seems wise, however, as Wölfler says, to classify all thyroid tumors which are not connected with the main thyroid, without regard to their genesis, as accessory goitres. No suspicion may be held that a tumor from the pleural cavity is thyroidal in nature until microscopic examination has been made. Virchow cites such a case. These accessory thyroid tumors situated within the pleural cavity are of course rare. Osler and F. A. Packard have reported cases. Reference has already been made to Dittrich's famous case.

Accessory thyroid tumors of the neck may develop from any of the accessory thyroid glands which are so common in the neighborhood of the main thyroid. They are usually found near the hyoid. Rokitsansky and Sir James Paget first described them in the middle of the last century. One case has come under my notice in the

post-mortem room of the Boston City Hospital. It was a simple adenoma measuring 2.5×2×1.5 cm. situated above and to the left of the thyroid and 1 cm. from it. There is no other case in the pathological records of the hospital. Pollard found a papilliferous adenoma of an accessory thyroid of the neck.

Intralaryngeal thyroid tumors are very rare; Paltauf reported a case in 1891. The tumor was situated under the right vocal cord. On post-mortem examination it



FIG. 2336.—Tumor of the Isthmus of the Thyroid. It extends upward as far as the lower border of the thyroid cartilage. (Warren Museum, No. 7,747.) (Slightly reduced.)

was found to be composed of thyroid tissue and to be connected with the thyroid gland. Baurowicz in 1898 collected eight cases in which tumors composed of thyroid tissue had been observed within the larynx and trachea, and added one of his own. He thinks these tumors arise from the thyroid and are enabled to grow into the trachea owing to a congenital defect in the wall. Bruns, however, has described a tracheal tumor which originated from an accessory thyroid in this situation.

Accessory thyroid tumors occur in the base of the tongue. I have collected eleven cases from the literature,* and there is an unrecorded case in the Warren Museum. It is a nodule 1.5 cm. in size, and was removed by Dr. S. J. Mixter. In 1892 Dr. J. C. Warren presented a case before the American Surgical Association. These tumors have also been studied by Butlin, Wolf, and Watson. They are usually 2 to 3 cm. in diameter. Nearly all the cases have been in women. In Wolf's case the tumor produced great dysphagia.

SYMPTOMATOLOGY AND DIAGNOSIS.—It is usually not difficult to determine whether or not a tumor of the neck is connected with the thyroid. The thyroid is closely bound to the larynx, and moves with it during deglutition. It must be remembered that any tumor or swelling connected with the outer surfaces of the larynx or trachea may present this sign. Berry tells us that a lipoma attached to the thyroid cartilage was mistaken by Sir Morell Mackenzie for a thyroid cyst. It moved with

*Theisen (*Albany Medical Annals*, October, 1901) reported a case of a tumor at the root of the tongue which he regarded as an accessory thyroid. It cannot, however, be included in the list as the structure of the tumor was not determined.

the larynx. Tumors thus simulating growths of the thyroid are, however, very rare.

A very large goitre may fail to move during deglutition. Either the bulk of the tumor may prevent the movements of the larynx or the tumor may become united to neighboring structures so that its position is fixed. The latter is frequently the case with malignant neoplasms.

The shaking or tilting of large thyroid tumors during deglutition is stated by Berry to be almost as valuable a sign as the rising of the tumor.

Dr. Osler reported a case of lymphosarcoma of the deep cervical glands which involved the thyroid and simulated goitre.

A tumor of the thyroid usually displaces the sternomastoid muscle outward and forward, while other tumors of the neck which might be mistaken for goitre generally push this muscle to the inner side (Berry).

The position of the carotid artery is an important aid in diagnosis. Bronchoceles push the artery backward and outward. The reason is plain. The thyroid gland

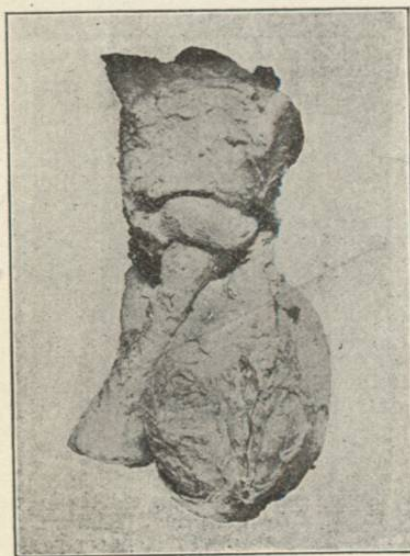


FIG. 2337.—Trachea Displaced and Compressed by a Tumor of the Left Lobe of the Thyroid. (Warren Museum, No. 7,979.) (Slightly reduced.)

is situated to the inner side and slightly anterior to the carotid sheath. Mr. Jonathan Hutchinson, in a recent clinical lecture on a case of tumor of the neck, laid special stress upon the position of the carotid, which was in front of the growth, in distinguishing it from goitre.

The internal jugular frequently is carried forward and may lie in front of a thyroid tumor. The carotid artery and jugular vein thus become widely separated. The position of the jugular is due to the traction of the veins which pass to it from the thyroïdal plexus (Lücke).

Pulsation transmitted to the tumor from the carotid artery has led to the mistaken diagnosis of aneurism. Guttman stated that in the goitres of Graves' disease there is an arterial murmur over the tumor which is not present in other forms of goitre. George Dock says he has not seen a case of simple goitre in which there was a murmur. James Berry, however, reports cases in which loud murmurs were audible over the tumor, and further states that a well-marked bruit is not uncommon.

The consistence of benign thyroid tumors varies greatly. The simple adenomas are usually soft. Tense cysts and fibrous goitres may be very hard, and goitres infiltrated with lime salts are, of course, hardest of all. Beck has called attention to the Roentgen rays as a means

of diagnosing calcified goitres. In dealing with suspected cystic growths, tapping gives the surest means of diagnosis. Strict attention should be paid to a sepsis, and care taken to avoid blood-vessels.

Pressure on the large veins of the neck produces obstruction to the venous circulation and roaring in the head, vertigo, deafness, etc., may result. These symptoms are rare.

Pressure on the recurrent laryngeal nerve may lead to paralysis of a vocal cord. A subclavicular goitre may produce numbness or pain in the arm by pressure on the brachial plexus. Involvement of the cervical sympathetic is rare.

The trachea is frequently displaced to one side, and lateral compression is common (Fig. 2337). Rose taught that the tracheal rings were often atrophied and softened; subsequent investigators have failed to confirm his observations. The stenosis of the trachea may be marked. Extreme lateral flattening gives the trachea very much the shape of a sword scabbard. The brassy cough due to compression of trachea or bronchus is well known and characteristic. Dyspnoea is the most common symptom of goitre. It is usually the result of direct pressure upon the trachea.

Compression of the œsophagus leading to dysphagia is not common. It occurs especially in those rare cases in which a prolongation of a goitrous gland extends behind the pharynx and œsophagus, or between the trachea and the œsophagus. I have seen a goitre which nearly encircled the larynx and trachea. There may be a marked inward bulging of the pharyngeal wall caused by the thyroid tumor. Edwards records a case of acute thyroid enlargement in which the dysphagia was extreme and death partly due to starvation.

A simple goitre does not produce constitutional symptoms. Walter Edmunds states that cases of goitre which present symptoms other than those due to pressure are really examples of Graves' disease.

The diagnosis of intrathoracic goitre is very difficult. Kocher in his latest article (*Archiv f. klin. Chir.*, 1901, vol. lxiv., p. 454) gives the following signs:

1. Patients have a strongly marked dyspnoea, out of all proportion to the relatively small struma in the neck. The dyspnoea may take the form of a constant air-hunger or of intermittent attacks of suffocation.
2. The trachea is pushed to one side, much farther than can be explained by the tumor of the neck. Indeed, it can happen that the trachea is pushed to that side on which the cervical portion of the thyroid appears enlarged.
3. The tumor in the neck is not definable below; on the other hand, one feels a distinct resistance on pressing the fingers deep into the thoracic aperture, and this resistance is often accompanied by a heaving pulsation.
4. The portion of the tumor in the neck can neither be deeply pressed into the thorax nor pulled upward. The trachea and larynx also are less easily drawn upward than normal.
5. There are signs of pressure upon the great veins of the neck, indicated by stasis which finds no satisfactory explanation in the tumor demonstrable in the neck. The cervical veins fill from below if one empties them, by pressing the blood out with the finger, and the veins of the arm no longer empty, in marked cases, when the arm is elevated. Headache, dizziness, tinnitus, epistaxis, and loss of memory may direct attention to the stasis in the cerebral veins.
6. Paresis of the recurrent laryngeal nerve is not uncommon, and quite often there is paralysis of the sympathetic of the same side with retraction of the optic bulb, slight ptosis, a narrow palpebral fissure, and myosis.

Birch-Hirschfeld found at a necropsy an intrathoracic goitre which had given rise to the symptoms of a severe cardiac neurosis.

Dulness on percussion is rarely elicited over intrathoracic goitres (Braun).

COMPLICATIONS.—In cysts of no other organ is there such a tendency to hemorrhage as in those of the thyroid

(Berry). Serious or fatal results may follow. Dr. Osler records a case in which death was due to hemorrhage into a large bronchocele. The cyst had ruptured, and the blood had infiltrated the surrounding tissues and extended beneath the sternum into the anterior mediastinum.

Rupture of a cyst into the trachea or larynx may lead to sudden death from suffocation.

Inflammation of a thyroid tumor may occur. The term "strumitis" is applied to an inflammation of a goitrous gland, while "thyroiditis" refers to an inflammation occurring in a normal gland. The former is the more common. The infection is usually secondary to primary infection elsewhere. Strumitis and thyroiditis occur more frequently in association with typhoid fever than with any other disease. Metastatic inflammation of the thyroid may take place in pyæmia, puerperal fever, pneumonia, and other infectious diseases. It is also said to be associated with rheumatism and malaria.

Tavel made a bacteriological examination in eighteen cases of strumitis. All but three were secondary infections. Streptococcus pyogenes was the micro-organism most frequently found. Diplococcus lanceolatus, Staphylococcus pyogenes, Bacillus typhosus, and Bacillus coli were also isolated, usually in pure culture. In the three primary cases no bacteria were demonstrable. Treatment of goitres by injection has not infrequently been the cause of strumitis.

The inflammations terminate in resolution, abscess formation, or gangrene. Abscess formation is the most common.

Strumitis can be recognized by the usual signs and symptoms of inflammation of the external parts. A rapid increase in the size of the thyroid occurs. The other important symptoms are dyspnoea, dysphagia, and fever. Pain is frequently severe. There is localized congestion and œdema of the surrounding tissue, and the tumor may become adherent to the overlying skin, but a thyroid abscess rarely opens externally.

An abscess may rupture into the œsophagus, or more commonly into the trachea. Sir James Paget describes a case in which a large suppurating thyroid cyst burst into the pharynx and produced suffocation.

TREATMENT.—Some of the simple adenomas (parenchymatous and colloid goitres of authors) can be cured by medical treatment. The most favorable cases are those occurring in the young. All the fetal and papilliferous adenomas, as well as the majority of simple adenomas, require the surgeon's knife for their removal.

If the patient is suffering from an endemic goitre he should leave the affected district. A residence at the seaside is said to be most beneficial. In a locality where goitre abounds the drinking-water should be boiled as a prophylactic measure.

The medical treatment may be local, general, or specific (organotherapy). The local treatment consists of the use of ointments and injections. The red iodide of mercury ointment is recommended. It should be rubbed into the skin over the tumor daily until the skin is tender. After a few days the procedure should be repeated. Exposure of the skin to the sun's rays after the ointment has been applied favors the remedial action.

Some authorities strongly recommend treatment by injections; others strongly condemn it. Injections of iodine should not be employed, as suppurative inflammation has frequently followed its use. Iodoform may be used, but strict aseptic precautions should always be taken. Mosevig-Moorhof recommends the following emulsion: iodoform, 1 part; ether, 7 parts; olive oil, 7 parts. Inject about m xv . once every five or eight days. Frey treated sixty-five cases by this method with no untoward results. Nicholas Senn advocates injections of a five-per-cent. solution of carbolic acid, repeated once or twice a week.

Many internal remedies have been recommended. Most of them are useless. Iodine is probably the most valuable. It may be given as potassium iodide in doses of gr. v.-xx., or as tincture of iodine in doses of m v.-x . two or three times a day (Murray). Ferrand, Gautier, and

others have called attention to the particular susceptibility of goitrous individuals to iodism. Kocher states that he has had a number of patients brought to him with a diagnosis of acute thyroidism when their symptoms were entirely due to iodine poisoning.

Phosphorus is highly lauded by Kocher. Experimental studies show that administration of phosphorus causes a notable increase in the iodine content of the thyroid.

It is still an open question whether thyroid extract yields any better results than iodine. Kocher thinks not. Bruns, Angerer, Murray, and others obtained striking results in some cases. Improvement is common, cure is rare. Reinbach fed thymus gland with almost equal success. Murray (*Edinburgh Medical Journal*, 1900, vol. viii., p. 113) administers dry thyroid in doses of three or more grains two or three times a day, or the liquid extract in doses of m xv . In cases in which operation is deemed advisable he recommends treatment by thyroid extract for two or three weeks. The reduction in size of the goitre and superficial veins makes its removal less difficult.

Treatment of Strumitis.—An ice-bag should be applied to the gland in the early stages of the disease. The bowels should be cleared by a dose of calomel. If an abscess forms it should be incised without delay.

MALIGNANT TUMORS.—Both primary and secondary tumors of the thyroid are very rare. Cooper in 1819 wrote that cancer of the thyroid never occurs. Walshe estimated the frequency of thyroid to other cancers as 1 to 1,000. Tanchon found among 9,118 cases of cancer only 8 in which the thyroid was involved. Cancer of the thyroid occurred 11 times in 7,700 autopsies (Chiari). Malignant disease of the thyroid is more common in goitrous districts than elsewhere. Lücke observed 10 cases in two years in Berne.

Cancer is more common than sarcoma. The relative frequency of cancer to sarcoma, judging by collected statistics, is as three to one.

Lartigau (*Am. Jour. of the Med. Sci.*, August, 1901) collected fifty-five cases of primary sarcoma of the thyroid. It is a disease of the old rather than the young. Few cases occur under forty years. The earliest age was eleven years. It is more frequent in the male than in the female (Morf).

The round-celled sarcoma is the most common. Ten of the forty cases collected by Morf were of this variety. Spindle-celled, mixed-celled, and alveolar sarcomas occur.

The tumors may vary in size from a small nodule 1 or 2 cm. in diameter to a mass the size of a child's head. They have a smooth or slightly lobulated contour, and on section are usually pale, smooth, and translucent. Their consistence is soft and homogeneous. They are more vascular than the carcinomas. In the majority of cases they have originated in the right lobe (Lartigau).

Sarcôma of the thyroid ordinarily grows more rapidly than carcinoma. Death usually occurs within a year (Lücke). It is often induced by compression or infiltration of the trachea or œsophagus.

Metastases were present in forty-five per cent. of the cases of sarcoma collected by Morf. The cervical lymph nodes are most frequently involved in sarcoma as well as in cancer. Secondary growths in the lungs and bones are common. The great vessels of the neck may become infiltrated. Wölfier records a case in which the tumor invaded the internal jugular and extended downward through the left innominate and superior vena cava into the heart.

About one hundred and fifty cases of primary cancer of the thyroid have been recorded. The majority of these have been published within recent years. Hinterstoiser found fifty cases in the records of Kundrat's Pathological Institute at Vienna. In 1899 Poncet published forty-seven cases which he personally observed in Lyons, a city in which endemic goitre is commonly seen.

The size and appearance of the carcinoma vary greatly. In the majority of cases the tumor has been of small size. The thyroid gland is sometimes actually diminished in size. Before the growth has infiltrated the surrounding

tissues it may closely simulate a benign encapsulated tumor.

Various types of cancer occur. The papilliferous adenocystoma may take on a low degree of malignancy and

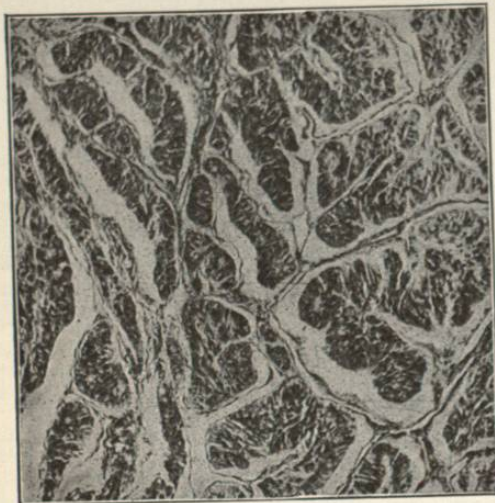


Fig. 2338.—Cylindrical-celled Carcinoma of the Thyroid. Acini filled with high cylindrical epithelium; no colloid present. (X 86 diam.)

would then be classed as a cancer. Cases of this nature have been described by Barker and Wölfler.

A rare but interesting form is the cylindrical-celled carcinoma. The high cylindrical-celled adenomas probably are always malignant, although in places their his-

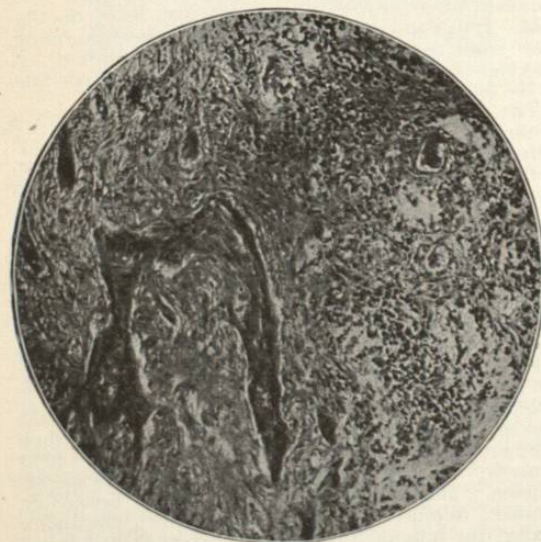


Fig. 2339.—Primary Squamous-celled Carcinoma of the Thyroid; margin of new growth. The tumor which lies to the left of the median line consists of nests of squamous cells separated by large areas of dense fibrous stroma. Beyond the tumor the normal glandular tissue of the thyroid has largely disappeared. There is marked infiltration with lymphoid cells. One shrunken vesicle filled with colloid is distinctly seen. (X 86 diam.)

tological structure may not suggest it. Fig. 2338 is from a cylindrical-celled adenoma that invaded the trachea.

The squamous-celled is also a rare but well-recognized form of primary thyroid carcinoma. It has been described by Forester, Lücke, Kaufmann, and Wölfler.

Fig. 2339 is from a case that was examined by Dr. J. Homer Wright, of the Massachusetts General Hospital. It is held that this peculiar tumor originates from the remains of the branchial clefts which are enclosed within the thyroid.

Housell has collected twelve cases of benign thyroid tumors that formed metastases. I have found two other cases in the literature. The original tumor as well as the secondary growths in all the cases had the structure of simple adenomas. Metastases in the bones have been a constant occurrence, and they usually form pulsating tumors. The first case was studied by Cohnheim. The thyroid tumor was of moderate size, and there were metastases in the bones, lungs, and bronchial lymph nodes. A nodule of the original tumor projected into the lumen of a small vein. Riedel, and Oderfeld and Steinhaus (*Cent. f. allg. Path. u. path. Anat.*, 1901, vol. xii., p. 209) have described cases in which the thyroid gland was normal. The latter hold that normal thyroid tissue may grow into blood-vessels, and the epithelial cells swept along in the current form metastases in the bones. Chris-

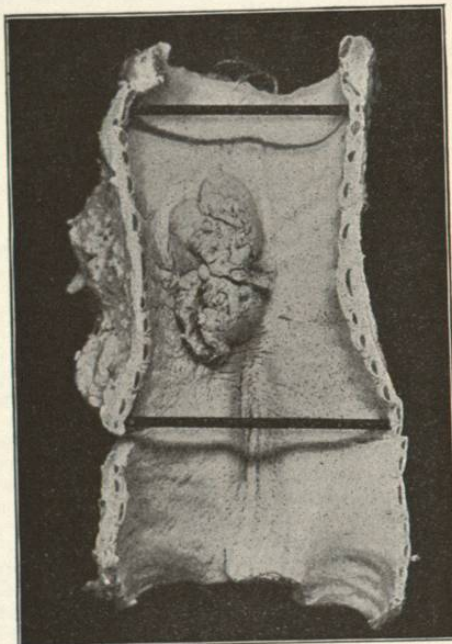


Fig. 2340.—Carcinoma of the Thyroid which has Invaded the Trachea and Formed a Button-like Nodule which Projects into the Lumen. (Warren Museum, No. 4,892.) (Natural size.)

tiani (*Jour. de phys. et path. Anat.*, 1901, vol. iii., p. 23) has demonstrated the great vitality and viability of thyroid tissue.

SYMPTOMATOLOGY AND DIAGNOSIS.—Clinically it is difficult to distinguish between sarcoma and carcinoma. The latter usually are of smaller size and develop more slowly.

The malignant tumors develop rapidly. Pain is an early and important symptom. It is usually severe and radiates to the head or shoulders. Tenderness on pressure is often present. Fever is the rule. Enlargement of the lower cervical lymph nodes is strong evidence of the malignant nature of the thyroid tumor, provided strumitis can be ruled out. Imobility of the tumor does not occur until the capsule of the thyroid has been penetrated and the tissues of the neck are infiltrated. Hence it is a late sign. Kaufmann considers thrombosis of the veins of the neck one of the most reliable signs of malignant tumors.

Penetration of the trachea is common. An elevated nodule, sometimes of considerable size, is found pro-

jecting into the lumen. It is usually situated about 2 cm. below the cricoid. Fig. 2340 is from a specimen in the Warren Museum of the Harvard Medical School. The patient entered the Massachusetts Hospital suffering from extreme dyspnea, hoarseness, and some dysphagia. Dr. Knight examined the larynx and found paralysis of one posterior crico-arytenoid muscle, and made out an obstruction of the trachea. The dyspnea continued until death occurred two days later. The autopsy was performed by Dr. Fitz. A tumor mass the size of a small lemon connected with the thyroid was found. The growth extended through the anterior wall of the trachea projecting into the lumen to such an extent as to reduce the calibre fully two-thirds. The oesophagus was so compressed as barely to admit the little finger.

A peculiar chronic inflammation of the thyroid which closely simulates an infiltrating tumor has been described and studied by Riedel, Tailhefer, and Berry. A number of cases have been reported within the past five years.

TREATMENT.—Early and radical operation offers the only hope of cure.

TUBERCULOSIS.—Although rare, tuberculosis of the thyroid is more common than is generally stated. Chiari found the thyroid was involved at autopsy in seven out of one hundred cases of tuberculosis. Roger and Garnier (*Arch. gén. de méd.*, 1900, vol. iii., p. 385) assert that while tubercles rarely develop, a sclerosis of the gland is a constant feature of chronic tuberculosis of the lungs or elsewhere.

SYPHILIS.—Swelling of the thyroid is common in the early stages of syphilis. Engel-Reimers found the gland enlarged in fifty per cent. of the cases. Gumma is extremely rare. The few instances that have been recorded were nearly all in children, and usually associated with severe visceral manifestations of the disease. For details in regard to syphilis of the thyroid the monographs of Fürst and Küttner may be consulted.

ECHINOCOCCUS DISEASE.—Berry has collected twenty-two cases. A single cyst has usually been found. The tumor when large may be very irregular in shape. The symptoms are those of an ordinary goitre. Dyspnea is usually present. There is a tendency to spontaneous suppuration. Diagnosis can be made only after microscopical examination of the cyst contents. The aspiration of a clear, limpid, colorless fluid is suggestive (Berry). The demonstration of hooklets or scolices confirms the diagnosis. The known association of urticaria with hydatid led Lannelongue to make the correct diagnosis. Perforation into the trachea has caused suffocation in a number of instances. *Joseph Hersey Pratt.*

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GOITRE AND CRETINISM.—**DEFINITION.**—Cretinism is a peculiar type of mental and physical degeneracy, either congenital or developing in childhood, due to absence or disturbance of the function of the thyroid gland. An individual afflicted with cretinism is called a cretin.

ETYMOLOGY.—The etymology of the word cretin is shrouded in obscurity. It seems that the word originated as a colloquialism in the Canton of Wallis in Switzerland. Esquirol (quoted by Demme, "Ueber den endemischen Kretinismus," Berne, 1840) derives the term from an old word *cretine*, an inundation (Anschwemmung), and connects it with the marshy character of many cretin districts. There is, however, no proof of such a derivation. According to Fodéré, the word comes from *chrétien*, a Christian, the term, "bon chrétien," having formerly been applied to the cretin, on account of his contented disposition. Another interpretation, according to which the word is also derived from *chrétien*, is based upon the fact that cretins were popularly believed to be elected Christians, and were considered holy, inasmuch as they were supposed to fulfil the lofty function of expiating in their unhappy lot the sins of their fellowmen. According to Gross ("Ueber die Ursachen des endemischen Kropfes und des Kretinismus," Inaugural Dissertation, Tübingen, 1837), the word comes from *Christiani* (spelled *Chrestiani* by Tertullian), because the Romans looked upon the converts to Christianity as fools and imbeciles. Celsus also spoke of the Christians as a society of slaves and idiots. Some have traced the term cretin to a word *cretina*, meaning stupid or silly. According to Ackermann, cretin comes from a Romance word, *cretira*, a creature. Others have derived it from *creta*, chalk, on account of the chalky complexion of the cretins. This derivation finds some support in the German colloquial word for cretin; viz., *Kreidling*, from *Kreide*, chalk.

Nearly every locality has its special name for cretins. In Austria they are known as Trotteln or Gacken; in Germany, as Kretins or Kreidlings; in German Wallis, as Gauche, Tampe, or Nollen; in French Wallis, as Crétins, or as Marrons, on account of the dark color possessed by some; in Salzburg, as Fexen, Trepped, or Trutsched; in Würtemberg, as Dackel, Dippel, Tralle, or Sempel; in the Pyrenees, as Cajots or Capots; in Piedmont, as Pazzi;