(König.) As in most cases it is impossible to force all food out of the diverticulum by pressure on the neck, there is decomposition of stagnant food, causing fetor which frequently becomes intolerable. Occasionally patients are obliged to wash out the diverticulum by diluting the remains of food with fluid, and then forcing this out till the odor disappears. If decomposed food reaches the stomach, there may be other symptoms in addition to those mentioned, which are apparently referable only to the stomach. There may be actual irritation of the stomach and the entire digestive tract (eructation, true vomiting, flatulence, colic, etc.).

The occurrence of a swelling in the neck, which is by no means a constant symptom (30 per cent. of all cases), usually attracts the attention of the patient. This swelling is frequently similar in appearance to goitre, and may after consumption of large quantities of fluids appear on both sides (Pfister) and thus render the similarity to struma still more striking. In case of smaller diverticula existing goitre may conceal the swelling.

The diagnosis is generally easy if the symptoms mentioned are carefully noted. The history of gradual development of the disturbances and regurgitation of unaltered food should arouse suspicion that a diverticulum is present. If a tumor in the neck develops during eating and can be emptied by pressure, it is still more probable that there is a diverticulum.

Examination with bougies offers the best means of arriving at a conclusion. If a bougie is passed, it will generally be arrested at a point not far distant from the cricoid cartilage, on the average 20–23 cm. from the teeth. The bougie may be felt from without through the neck. (Butlin.) In order to distinguish from a stenosis it is important that the tip of the bougie be freely movable within the sac, particularly toward the sides, as this would point to dilatation.

A series of observations have shown that closure of the œsophagus is caused by the fact that the crescentic border forming the entrance becomes applied to the anterior wall of the œsophagus like a valve (König, Mixter) in such a way that the diverticulum, hanging down, forms the actual prolongation of the œsophagus. The lumen of the œsophagus is apparently an opening in the anterior wall of the diverticulum. These anatomical relations explain why, particularly if the diverticulum is empty, a bougie can be passed into the stomach without meeting with obstruction, which would not be the case if stricture of any kind were present.

v. Bergmann considers this phenomenon of a bougie being arrested at one time and passing easily at another, a positive sign of diverticulum of the œsophagus. Occasionally when a bougie has been passed into the diverticulum a second bougie may at the same time be passed into the stomach. This would be impossible if there was stenosis. In carcinoma, in which it may happen that a bougie can be passed at one moment and not at another, the remaining signs (situation, glandular enlargement, necrosis, examination with œsophagoscope) will render the diagnosis positive.

If a bougie can be successfully passed into the œsophagus, it must be withdrawn the entire length of the diverticulum before it can be again advanced. In the presence of stenosis or dilatation above the stenosis, which is rare, this would not be the case.

Regarding the value of œsophagoscopy in cases of diverticulum there are only a few observations (v. Hacker, Rosenheim, v. Mikulicz, Hanszel, each 1 case; Killian, 3 cases).

In v. Hacker's case the diverticulum was apparently a folded sac of mucous membrane, the walls of which were covered with a mucous secretion. Owing to the restlessness of the patient it was impossible te obtain a distinct view of its entrance into the œsophagus. At the same time it was possible to make out a firm fold of mucous membrane, concave above, and in front of this the signs of a lumen. This difficulty is explained by the fact that the diverticulum usually arises at the level of the cricoid cartilage at a point where it is difficult to obtain a clear view with the œsophagoscope.

Œsophagoscopy would be useful in this condition in order to determine the diameter of the neck or pedicle of the diverticulum, which is important from the point of view of diagnosis; also to locate the entrance into the œsophagus, and thus render it possible to institute regular dilatation. If the patient suddenly swallows, the lumen of the œsophagus will suddenly open. (Killian.) This moment should be chosen for the passage of the bougie.

Percussion may show dulness over the chest where the diverticulum extends low down in the thorax (32 cm. from the teeth, Neukirch, Pfister), over the upper portion of the thorax anteriorly or on the right side from the third to the fifth dorsal vertebræ behind (Neukirch). This dulness disappears on emptying the diverticulum. (Kocher, Neukirch.) There may be a zone of tympanitic resonance from the clavicle upward in the region of the sternomastoid muscle. (Pfister.) *X*-rays may also be employed as an aid to diagnosis. (Blum.)

Treatment consists of non-operative or operative interference. Dilatation has been employed in case of diverticulum, as in all cases of obstruction of the œsophagus, but there is only one instance in literature in which a cure was effected and confirmed nineteen years later.

Birkhan took a rather large tapering gutta-percha bougie with a blunt, rounded tip and curved similarly to a Mercier catheter; with this instrument he dilated a patient in whom König had found a diverticulum reaching to the sternum. When the patient died of pneumonia it was found that the diverticulum was the size of a hazelnut. Schede applied the faradic current to the entrance of the diverticulum; the latter contracted. He then passed into the œsophagus a copper wire armed with a round tip and curved like Birkhan's bougie; over this he drew stomach-tubes of increasing size. Through the tubes semifluid food was introduced. Later it was no longer necessary to employ the faradic current, it being sufficient simply to bend the

head backward. Neukirch improved on this by having the patient lie horizontally and on the right side while eating. In this way the walls of the diverticulum, situated on the right side, were applied to each other, the entrance of the œsophagus became more free, and it was possible to get food into the stomach.

Such results are, however, exceptional, and for that reason operative methods were considered. Gastrostomy must be mentioned as a palliative method of treatment. This was first recommended by Schönborn in 1877. In every case in which it was employed the patient died of pneumonia (Chavasse, Häckermann); only one lived for three years (Whitehead). König recommended gastrostomy as a preliminary operation to extirpation of the diverticulum in order to avoid feeding by the mouth till the wound in the œsophagus had healed. In the author's opinion, however, preliminary gastrostomy is indicated where the patient is so exhausted that he will in all probability not survive the more severe operation of extirpation, particularly for the reason that during the first few days after extirpation not much food can be given, while gastrostomy performed in one stage does not occasion difficulty or danger.

Extirpation of the diverticulum, proposed by Kluge at the beginning of the nineteenth century, must to-day be considered the best method for permanent cure of this condition. As in its removal the wound is liable to be infected by the contents of the sac, it is advisable to wash out the sac before operation, and not to fill it by giving the patient a small meal. (König.) Placing compresses beneath the sac will protect the wound (Billroth), but this precaution will not prevent food being aspirated during anæsthesia. The latter occurrence may lead to death from pneumonia and gangrene of the lungs. (Kraske.)

Incision is made along the inner border of the sternomastoid muscle, on the right or left side, according to the situation of the diverticulum, and is carried from the level of the hyoid bone as far as the clavicle, so that the level of the cricoid cartilage is placed about at the middle of the incision (Kocher made his incision from the lateral border of the thyroid cartilage vertically downward). The sternomastoid muscle is retracted outward. It will not be necessary to divide partially or completely the muscle as suggested by Kocher, unless a coexisting struma is in the way. Billroth was able to draw the sac up from behind the clavicle without dividing the muscle. The thyroid gland is forced inward. In doing so, it is frequently necessary to ligate the inferior thyroid artery, after having divided the deep fascia of the neck along the external border of the inferior hyoid muscle (sternohyoid). It occasionally is necessary to ligate the superior thyroid artery.

v. Bruns found it necessary to remove one-half of the thyroid gland. The omohyoid muscle can be spared and retracted outward or it may be divided.

The œsophagus is now searched for. The edge of the thyroid cartilage may be retracted from the vertebral column with a sharp retractor. (v. Bergmann.) As it is frequently difficult to distinguish the diverticulum from the longitudinal fibres of the œsophagus, it is advisable to pass a bougie from the mouth into the diverticulum and to look for the inferior convex border.

Enucleation is generally easy, like that of a hernial sac, provided there are no firm adhesions with the surrounding tissues; under such circumstances the sac may be torn. Where this occurs, compresses should be used to protect the wound from being infected by the contents of the sac. As soon as the diverticulum has been freed as far as its neck it may be divided step by step from below, and the wall successively sutured (König), or a temporary ligature may be thrown around the neck of the sac and the adventitia and muscular coats divided, a double ligature then tied about the mucosa and the latter divided between the ligatures with a thermocautery. (Kocher.) The adventitia and muscular coats are now freed from the ligature. Although both of Kocher's cases healed by primary intention, it is possible that in dividing with a thermocautery the slough might interfere with primary union.

The wall of the œsophagus should be carefully sutured. The best method is that of intestinal suture, in separate layers (mucosa, muscular coat, and adventitia). König used catgut, others used silk; the choice of material is of little importance. Nicoladoni has recommended inversion of the stump of the diverticulum toward the œsophagus and suturing the adventitia in order to make a tubular valve (Röhrenventil), which would prevent the entrance of food into the wound. Girard recently employed this idea, and inverted the entire thickness of the diverticulum. In the process of inversion he inserted three successive purse-string sutures (in 2 cases). Czerny also employed this method in 1 case. The result was a knot in the œsophagus like a polyp, and after a short time deglutition became normal, the diverticulum undergoing contraction. Girard recommended his method for only small and medium-sized sacs.

It is advisable not to close the wound completely, but to lay a strip of iodoform gauze from the œsophageal suture out through the skin-incision. If the sac occupies the entire region behind the sternum, it is well to drain or pack this region also. (König.) The gauze drains may be removed after a few days, a larger tampon after about two weeks. (König.)

During the after-treatment it is important to decide whether a stomach-tube should be inserted or not. In Billroth's case a tube was left in place for four days. It is certainly true that nourishment can be better provided in this way than by the rectum, but when one considers that the majority of these patients have an ossified cricoid cartilage (this condition has even been considered an etiological factor), it is to be feared that the tube may cause pressure-necrosis at this point, as is so frequently seen in employing a permanent tube after operation for carcinoma of the tongue, and as occurs when drainage-tubes are left in place for the purpose of dilating strictures. In order to avoid this danger, and in order not to expose the suture to the risk of frequent

insertion of a tube, enemata have been employed for the first four days. After this clear fluid and wine can be given by mouth; or if infection of the suture is to be absolutely avoided, sterilized peptone salt solution (Kocher); after ten days egg, consomme, later gruels and scraped meat. Solid particles of food should not be swallowed for some time. (König.) In most cases a small fistula develops six or seven days after operation, through which fluid escapes. Under such circumstances König recommends feeding only with the stomach-tube. These fistulæ frequently require some time to close (five weeks, Billroth; twelve weeks, v. Bergmann), but they usually close spontaneously or after applying a thermocautery.

Extirpation of diverticula has been performed 27 times, with 5 deaths. One patient (Zesa's) died of a subsequently performed gastrostomy; the other cases died of anuria on account of an existing nephritis (cited from Butlin), pneumonia (Krase), erosion of the superior thyroid artery (Niehaus), pneumonia, and sublimate enteritis (v. Burckhardt).

Prognosis.—Compression of the œsophagus by the diverticulum frequently results in inanition, in spite of treatment with bougies, and will result fatally unless death is caused by some intercurrent disease acting on the weakened organism. Of 66 patients regarding whose fate there are reports (Starck), 26 died from the consequences of the diverticulum after great suffering.

Death may also result from the aspiration of vomited food (pulmonary abscess, Classen). Ulcerations in the diverticulum may lead to retropharyngeal and parœsophageal phlegmons. It has also been reported that carcinoma developed from diverticula (Newton-Pitt, Edgren), probably originating in ulcerations.

Deep-seated Diverticula.—Besides pressure diverticula of the entrance to the œsophagus and traction diverticula there are found sacculated dilatations which are to be considered deep-seated diverticula. They are rare, but are mentioned as they may give rise to confusion.

Przewoski found diverticula in the middle and lower portions of the œsophagus in 7 cases. They were the size of a hazelnut; their floor was arched, not funnel-shaped; they had a wide opening, and on their outer surface there was no trace of adhesions. They cannot therefore be considered traction diverticula. Since then a small series of diverticula has been described, situated in the same region, and which had a capacity of 100–500 c.c. (Mintz, Reichmann, Kelling, Bychowski, Reitzenstein.) According to Starch, a similar series of observations are to be found in older literature. There are also congenital diverticula of this same kind. (Vigot.) They are dilatations of the anterior œsophageal wall including the muscular layer. Their apices are inserted into the bifurcation of the trachea and may be due to errors of development. They should not be mistaken for traction diverticula. It is very easy to assume that from such small diverticula (whether congenital or acquired) larger sacs may have developed, possibly by a sort of pressure from within. A few patients stated that they always ate rapidly, did not properly chew their food, and swallowed large pieces. These diverticula also occur more frequently in males. The majority of the patients were over forty years old when they applied for treatment. The disease may, however, begin early (twelve years, Bychowski) and continue for a number of years before medical aid is sought.

Symptoms.—The symptoms are vomiting or regurgitation of food while eating or soon after. The vomiting occurs without effort, and may occasionally be exerted voluntarily by inspiration during closure of the glottis. After vomiting the patients are able to eat for a while. Occasionally, it is stated that after eating there is a sense of pressure or weight in the region of the sternum. The disturbances slowly increase in intensity, larger quantities of food are vomited, and less food enters the stomach, so that the patients become gradually much emaciated.

The entrance to these diverticula is situated in the middle portion of the œsophagus, about 20 or 30 cm. from the teeth. The bottom of the sac is recognized by the bougie meeting with an insurmountable obstruction at a distance of from 40 to 46 cm.

Diagnosis.—Examination is best conducted by means of a bougie, the tip of which is curved like a Mercier catheter (Kelling), as Birkhan has recommended for pressure diverticulum. With these bougies it is generally easy to pass by the diverticulum, and it is possible also to determine whether sacculation is situated to the right or to the left of the median line. This might be determined as easily by œsophagoscopy. It is easier also to determine the distance of the entrance into the diverticulum from the teeth by œsophagoscopy than by the complicated test-methods usually employed (insertion of double-barrelled tubes, held together with strips of adhesive plaster, and pouring in colored fluids, in order to determine the height of the diverticulum, and other methods). There is no swelling in the neck. The vomited food is almost unchanged, hydrochloric acid is usually absent, while lactic acid is generally present in large quantities; occasionally there are also flakes of squamous epithelium. (Bychowski.) Upon examination with bougies, in case of diverticulum, the instrument at first meets with an obstruction; on being withdrawn it can be advanced without meeting resistance, usually only after the contents of the sac have been evacuated (absence of stricture). It will be possible then also to obtain stomach contents (hydrochloric acid, possibly bile). If two tubes can be passed at the same time, one into the diverticulum and the other into the stomach, different colored fluids can be poured into the tubes. They will flow out unmixed.

As an aid to differential diagnosis between diverticulum and diffuse dilatation the tube in the stomach may be provided with lateral openings. If there is dilatation, fluid poured into the tube in the diverticulum (it is better to employ a colored fluid) will flow through the lateral openings into the stomach. If a diverticulum is present,

nothing will flow out of the tube in the stomach, or only what is in excess of the capacity of the diverticulum, while from the tube in the diverticulum all the fluid poured in will be recovered; that is to say, an amount equalling the capacity of the diverticulum. (Rumpel.)

The *x*-ray may also be employed for the purpose of obtaining information as to the situation, form, and size of the diverticulum. If the sac be filled with a bismuth mixture, the diverticulum will give a shadow. If a bougie filled with shot or one provided with a lead guide is passed, the shadow thrown by the latter will give the contour of the sac, and thus afford information as to the seat of the diverticulum.

Treatment.—Irrigations with mild antiseptic solutions will prevent decomposition of food and resulting irritation of the mucous membrane (ulceration). Patients tolerate this form of treatment well and are subjectively improved. As it is usually easy to enter the stomach after emptying the diverticulum, dilatation treatment might promise good results. This is best carried out with the sound devised by Kelling. The patient may be directed to eat while lying down, as suggested by Neukirch.

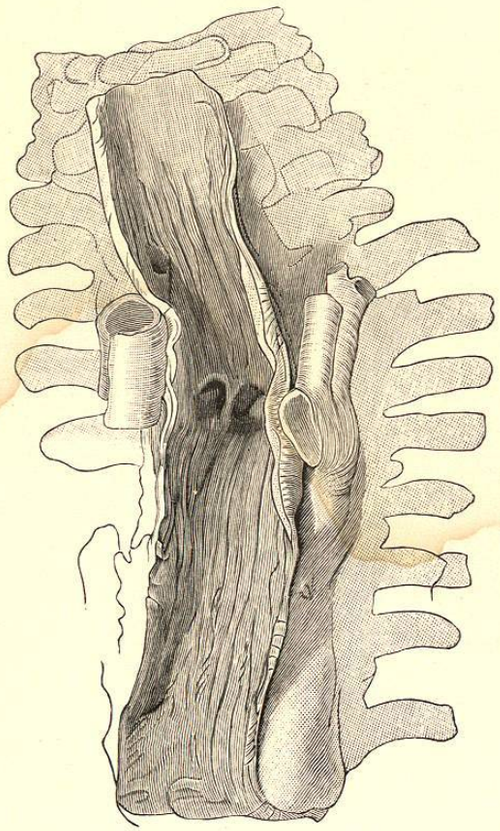
Traction Diverticula.—Traction diverticula are of greater pathological and anatomical than clinical interest, as they usually run their course without producing symptoms, and are only occasionally found at autopsy. They are of a certain significance, however, for the reason that they may have serious consequences. Relatively they occur quite frequently; they are certainly more frequent than pressure diverticula. They are most frequently caused by softening and suppuration of mediastinal and bronchial lymph-glands, particularly in tuberculosis of the latter. These glands are most frequently situated at or below the point where the œsophagus crosses the left bronchus. They undergo contraction after having softened, or not infrequently after having ruptured into a bronchus or into the œsophagus itself. As they are usually adherent to the œsophagus, the anterior wall of the latter is drawn out by cicatricial contraction, resulting in small dilatations of the œsophagus, as first described by Rokitansky.

As a rule only one diverticulum is found, but occasionally there are a number of them (two or three above each other). They are rarely larger than a hazelnut, funnel-shaped, the apex of the funnel being directed upward, forward, or to one side; less frequently it is directed downward. Corresponding to the situation of the above-mentioned glands, they are located in the anterior wall of the œsophagus, near the bifurcation. Traction diverticula do occur which are not located on the anterior wall, but these forms are more rare, and result from mediastinitis or follow caries of the spine. (Fig. 33.) v. Hacker observed traction diverticula following perichondritis and necrosis of the cricoid cartilage; Chiari, after adhesion of the œsophagus with the thyroid gland where the latter had undergone colloid cystic degeneration. Diverticula generally consist of muscular coat and mucosa. Some diverticula are composed only of mucosa. There

is in most cases a complete mucous membrane lining, but at the apex of the funnel there may be cicatricial tissue instead of mucous membrane, which would point to previous perforation of the œsophagus.

Remains of food, particularly harder particles, or pieces of bone, may lead to ulceration and perforation where there is absence of mucous membrane at the apex of the funnel. In this way mediastinitis, gangrene of the lungs, etc., may occur. (Rokitansky, Cöster.) This is a constant source of danger to the patient.

FIG. 33.



Traction diverticulum of the œsophagus from caries of vertebræ.

As a rule traction diverticula run their course without producing symptoms. They produce no difficulty in swallowing. Tiedemann has drawn attention to the fact that in cases in which such diverticula were found at autopsy the patients had complained that granular particles of food like rice were liable to remain caught. Where one meets with this statement it might be possible to make a positive diagnosis by employing the œsophagoscope. Examination with fine

bougies (Zenker) will in all probability be successful only where the funnel is directed downward.

Under extraordinary circumstances such a traction diverticulum may be stretched by the pressure of entering food, usually in such a way as to cause separation of the muscular coat and the production of a hernia consisting only of mucosa. These so-called traction pulsion diverticula (Tiedemann, Ockonomides, Teteus) involve a more serious danger for the patient, as on account of the retention of food for a longer time and increased tension there is greater tendency to perforation. Teteus found that of 88 traction diverticula 6 were secondarily dilated by pressure from within.

There is no satisfactory treatment, even if the diagnosis should be made during the life of the patient. It is limited to prophylactic measures, particularly avoiding rapid eating and drinking, and limiting the patient to a soft or fluid diet. If perforation takes place into the air-passages, feeding with the stomach-tube or gastrostomy is indicated.

NEW GROWTHS OF THE ŒSOPHAGUS.

Cysts, Papillomata, Myomata, Sarcomata of the Œsophagus.—Some of the growths occurring in the œsophagus, such as warts, cysts, papillomata, fibromata, lipomata, and myomata, possess only a pathological-anatomical interest, as these tumors rarely cause disturbance.

Klebs has pointed out the analogy between diseases of the œsophagus and those of the external skin. Thus in the œsophagus are found *warts*, which are generally small and distributed over different portions. It might be readily conceived that the latter could develop into carcinoma analogous to cutaneous warts, but this transition has never been proved. The warts may project into the lumen in the form of tufts, but do not cause characteristic manifestations. They are only occasionally autopsy findings.

Retention-cysts of the mucous glands have also been described. They may attain the size of a cherry or that of a hazelnut (Klebs), and be lined with ciliated epithelium (Zahn). Owing to their small size they usually run their course without producing symptoms. There are some cysts, lined with ciliated epithelium, wedged between the trachea and the œsophagus, which are looked upon as degenerated remains of the communicating canal between the œsophagus and trachea. They may attain sufficient size (3 to 6 cm.) to compress the œsophagus. (Eppinger, Petrow.)

Papillomata may cause difficulty in swallowing, manifested by slow descent of food when swallowed. Examination with bougies may show a slight obstruction; a portion of tissue may be caught in the fenestrum of the bougie, thus making the diagnosis positive. (Reher.)

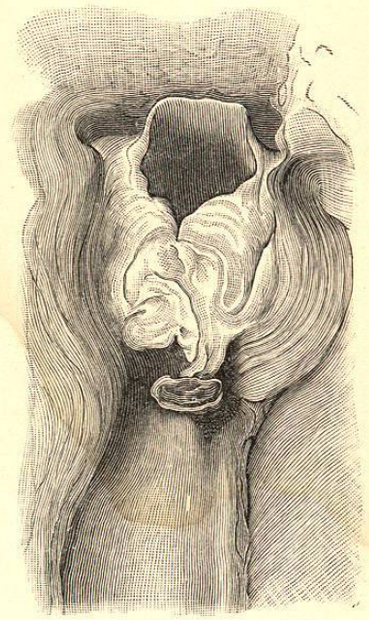
Fibromata and *lipomata* also occur, originating in the submucosa (Zenker); also myomata originating in the muscular coat. The number of cases of myomata described in literature is small. They occur at different levels of the œsophagus, at any age, do not usually attain great

size, and therefore usually run their course without producing symptoms. In most cases they occurred as solitary or multiple tumors (14, Pichler). Cases of rhabdomyomata have also been described. They are more malignant in character, produce metastases in the lymph-glands, and cause difficulty in swallowing owing to the fact that they grow rapidly and may attain considerable size.

FIG. 34.

Myoma of the œsophagus.

FIG. 35.



Sarcoma of the œsophagus.

Sarcomata of the œsophagus are similar to carcinomata in many respects. They are located preferably at the entrance of the œsophagus and near the bifurcation. As a rule these tumors are not large, but they may present an ulcerated surface 6 cm. in extent. They also produce metastases in the bones (Rolleston), and may be either spindle-cell, round cell, or alveolar sarcomata. Occasionally they produce no symptoms, but may lead to difficulty in swallowing and cause pain. Occasionally a tumor extends to the air-passages, usually shortly before death. (Livingood.) The tumor may cause such complete obstruction of the œsophagus that the patient dies of starvation.

(Chapman.) Varicose veins may accompany the tumor and, by rupturing, cause death. (v. Notthaft.) Sarcomata may be pedunculated or polypoid. (Albrecht.)

Diagnosis.—In all the forms mentioned of new growths œsophagoscopy should be carried out if there are symptoms pointing to disease of the œsophagus, particularly if obstruction is found on conducting examination with bougies. Only by this method (œsophagoscopy) can a positive diagnosis be made, especially if portions of tissue can be removed, otherwise it may be impossible in some cases to differentiate from carcinoma.

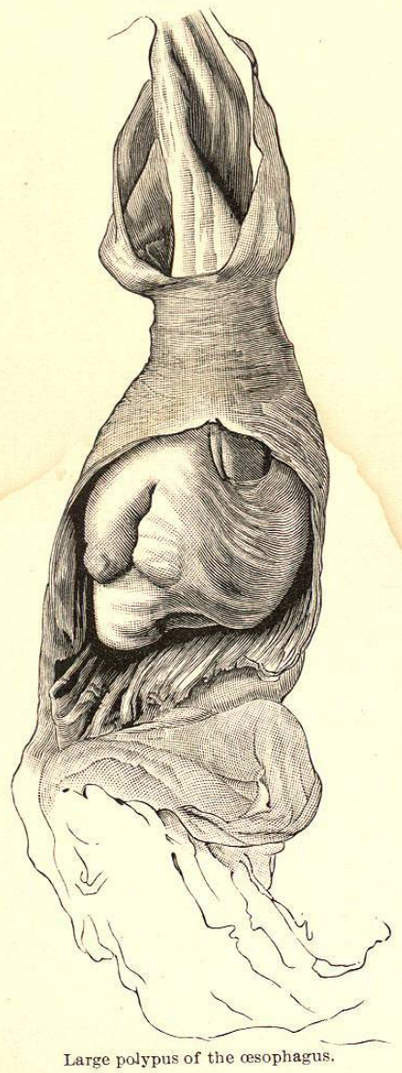
Treatment.—Cauterization might be employed in case of smaller tumors. Pedunculated tumors may be excised, as described under polypi. Finally, where there is marked stenosis leading to inanition gastrostomy must be considered.

Polypi of the Œsophagus.—For practical reasons pedunculated tumors of the œsophagus have been classed as polypi. They are rather rare. The pedicle is usually attached in the region behind the cricoid cartilage—that is to say, the entrance of the œsophagus—in most cases on the anterior wall, usually in the median line, but occasionally a little to the left side. (Zenker.) Sometimes the pedicle is attached lower down. Under such circumstances it may be assumed that in the course of time, as a result of traction on the tumor, the pedicle undergoes a change in its position downward. (König.) In rare cases such pedunculated tumors are situated in the lower portions of the œsophagus, at the level of the bifurcation or nearer the cardia, but in such cases the tumors are usually provided with a broad pedicle. They are usually fibromata, with cavernous spaces filled with circulating blood ("erectile connective-tissue tumor"). Fibromyomata, myomata, and myofibrolipomata may occur in the form of polypoid tumors. They are usually pear-shaped, originating in the submucosa, and covered with mucous membrane. The surface of the larger tumors especially is frequently ulcerated as a result of irritation from particles of food. The time required for the growth of polypi varies. Sometimes they grow rapidly (six months, Schendricowski); occasionally they are only noticed for a few days (Koch). Polypi are found mostly in males of advanced years (Zenker); they vary in size, occasionally becoming formidable (Minski, 14 cm.).

Symptoms.—Small polypoid tumors cause no symptoms. Larger ones may produce much difficulty in swallowing. Some patients note that they can swallow fluids more easily than solids. This is due to narrowing of the lumen of the œsophagus. There may also be nausea and regurgitation of food. Frequently between meals there is a sensation as of a foreign body in the throat; occasionally this is accompanied by gagging and attacks of spasm of the throat. If the tumors attain a large size, there may be difficulty in breathing where a polypus which ordinarily hangs down is thrown into the entrance to the larynx. In this way it may reach the cavity of the mouth and be torn or bitten off by the patient, or it may even hang out of the mouth

(Fig. 36, case of Minski). Polypi occasionally excite indefinitely localized pain. As distinguished from carcinoma, there is an absence of glandular metastases in the neck, and in most cases, owing to the fact that the tumor does not decompose, there is absence of fetor. In some cases the polypus can be felt in the neck as a movable tumor which, in distinction to diverticulum, cannot be emptied by pressure; nor will remnants of food appear in the mouth.

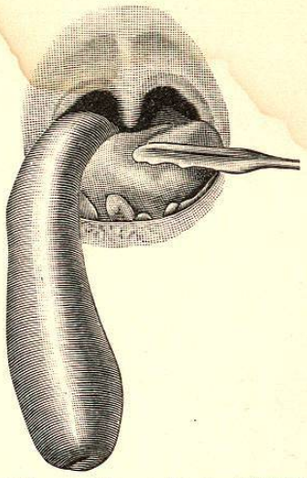
FIG. 36.



Large polypus of the œsophagus.

Diagnosis.—There are no reports of œsophagoscopic examination in cases of polypi. It is to be assumed, however, that examination with the œsophagoscope would reveal the situation and the size of the pedicle, even were it impossible to inspect carefully the tumor itself. Examination with bougies offers no definite information. Middledorpf has

FIG. 37.



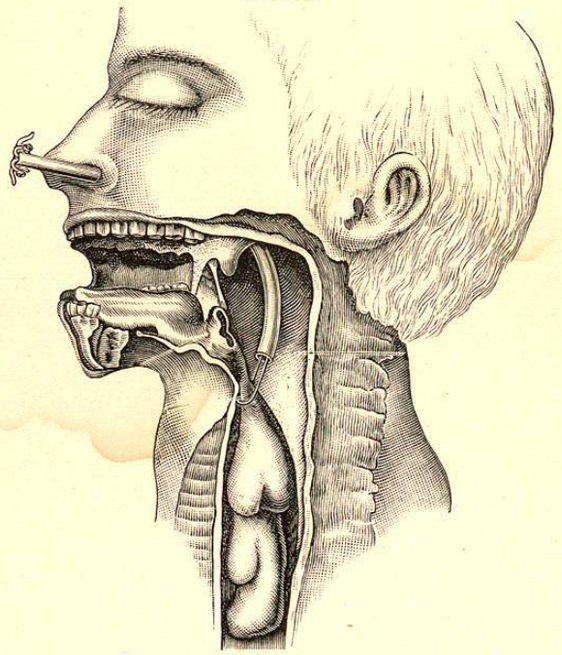
Polypus of the œsophagus. (Minski.)

mentioned that the bougie may be caught at one moment and easily passed into the stomach at the next, which may cause one to suspect a diverticulum. The same may happen in carcinoma.

Acting on the experience that polypi are occasionally thrown up

into the mouth, it has been suggested first to administer apomorphine (Cheatham), and if in this way or without the use of apomorphine the tumor can be reached from the mouth, to grasp it with a Muzeux forceps and to divide the pedicle. This is most simply accomplished with scissors. If the pedicle is narrow, this can be done without previously ligating it (Koch); if it is broad, after passing a ligature (Middledorpf, Warren, Lennander). In the same way the tumor may be removed by means of a galvanocaustic loop or with an ordinary cold snare. If the presence of a polypus has been positively determined, its removal through the neck might be considered. After performing œsophagotomy the tumor could be readily excised at its

FIG. 38.



Large œsophageal polypus. (Dallas.)

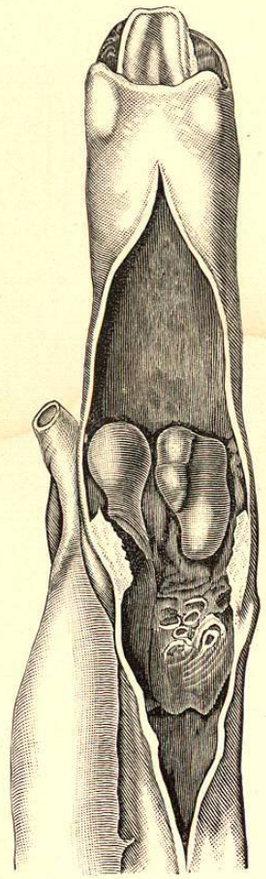
base. In those rare cases in which the pedicle of the tumor is situated lower down in the œsophagus the author would recommend its removal with the aid of the œsophagoscope. The tumor should be grasped by forceps constructed like foreign body extraction forceps, but provided with jaws like those of the Muzeux clamp. The tumor can then be removed by a specially constructed galvanocaustic loop, and finally the tube, forceps, and tumor withdrawn together.

Occasionally asphyxia has rendered immediate tracheotomy necessary. In the case of deep-seated tumors situated low down gastrostomy has been found necessary. (Ogle.) This would be necessary only where removal of the tumor through the œsophagoscope was impossible.

Carcinoma of the Œsophagus.—Carcinoma is the commonest new growth of the œsophagus; in fact, it is the most frequent disease of the latter. It may occur as a primary or secondary tumor. Secondary tumors are usually caused by direct extension from neighboring organs or through inoculation with secretion of carcinomatous ulcers of the upper digestive tract situated higher or lower. True metastases resulting from carcinoma of other organs have not been observed in the œsophagus.

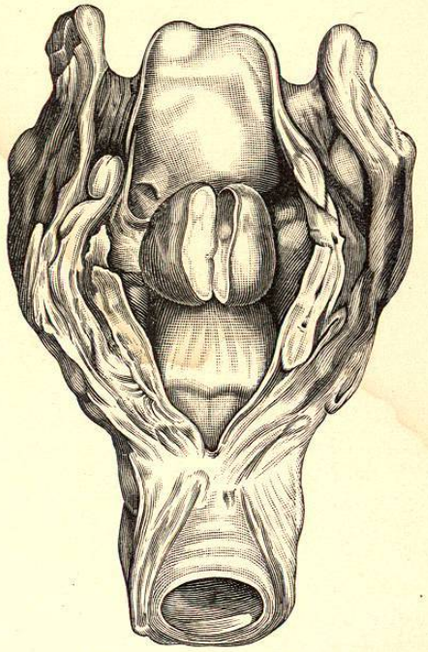
Of carcinomata in general, carcinoma of the œsophagus is fifth in frequency, constituting 5.3 per cent. of all carcinomatous disease. (Heimann.) The male sex is more frequently affected (72.88 per cent.). Women who suffer from this disease generally belong to the poorer classes. As is true of carcinoma in general, it occurs in advanced life. But carcinoma of the œsophagus has been observed in a girl nineteen years old (Heimann), in a girl twenty-three years old (Stewart), and in a man thirty-one years old (v. Hacker); however, it is rare under forty years of age (5 per cent.), being found most frequently after fifty years (71 per cent.).

FIG. 39.



Œsophageal polypi.

FIG. 40.



Polypus of the upper portion of the œsophagus.