alveolar puncture is in the right direction, but surely too pronounced. Each has its field of usefulness.

Among other items of novelty were the communications by Dr. Brown-Kelly and Mr. Waggett on bronchoscopy and œsophagoscopy.

These discussions may be looked upon as reviews of the present position of our knowledge of the utmost importance, even if the subjects chosen have already received considerable attention under similar circumstances.

We hope to make some reference in our next issue to the discussions in the sections of ophthalmology and odontology, which dealt with certain important relations existing between diseases of the nose and those of the orbit and dental apparatus respectively. They might well have been held in joint meetings to the great advantage of everybody concerned.

In all respects the Association Meeting at Sheffield was a thorough success, and the Section of Laryngology and Otology as presided over by Mr. Wilkinson was no exception to this.

ACTUAL RESULTS OF ŒSOPHAGOSCOPY: (1) EXTRACTION OF SEVERAL FOREIGN BODIES OF IRREGULAR SHAPE (DENTAL PLATES); (2) SPASM OF THE CARDIA (CARDIO-SPASM) OF SEVERE NATURE (DIAGNOSIS AND TREATMENT).

BY DR. GUISEZ,

Senior Oto-laryngologist at the Hotel Dieu in Paris.

TRANSLATED BY K. DICKSON.

WE wish, in this paper, to report several results of œsophagoscopy in the extraction of foreign bodies of irregular shape (dental plates). We wish also to relate a case of severe spasm of the œsophagus, and in this connection we wish to dwell on all the resources which œsophagoscopy offers us, from the diagnostic and therapeutic points of view, in cases of stenosis of the œsophagus.

*Dental Plate extracted from the Œsophagus by Œsophagoscopy;
Recovery.*

CASE 1.—The patient, Ch. V—, living at Commentry (Allier), was referred to us by M. Infroid, of la Salpêtrière, who, by means of radiography, had detected the presence of a dark spot towards the middle third of the œsophagus.

The patient had been sent to Paris by her doctor, who had made several attempts, but had been unable to extract the dental plate, which she had swallowed during sleep. All that she had noticed, she said, was that the discomfort, which she had felt at first at the upper part, was, after the manipulations (introduction of a probe and bougie), localised in the part quite below the level of the neck. During the three weeks since the accident the patient had only been able to take liquids (milk, yolk of egg, such as could be swallowed without pain); she complained of fairly severe pain above the epigastric hollow and at the base of the neck. An œsophagoscopic examination made at the clinic in the Rue de Chanaleilles on June 26, 1907, under cocaine in the sitting posture revealed the dental plate towards the lower third of the œsophagus; it was enclosed by its two extremities, and one of the hooks seemed to us to be fixed in the left wall of the œsophagus. The examination also showed us a dark patch in the middle part of the œsophagus, a result no doubt of the manipulations previously made for the removal of the foreign body. We succeeded in catching hold of it and guiding it towards the upper orifice of the œsophagus, but in vain; it fell back in the œsophagus towards the stomach. We did not wish to prolong this sitting, the patient being very exhausted.

The second operation, under chloroform, performed on June 29 at the Hotel Dieu, in the reclining position with the head hanging down, easily enabled us to remove this foreign body, which we found fixed a little above the cardia.

The reclining position and the administration of chloroform greatly facilitated this extraction, and we removed the tube at the same time as the foreign body. Complete recovery took place in a few days.

Dental Plate extracted from the Œsophagus of an adult; Recovery.

CASE 2.—The patient, who was forty-five years of age, was brought from Lille, on January 31 last, by our colleague Dr. Delobel.

This patient, who wore a dental plate, had swallowed it the preceding night. Being awakened by a severe pain, he called in his medical attendant, Dr. Bierent, of Helème-lez-Lille, who tried to extract it with the finger in the mouth and by means of forceps; he wisely did not prolong these manipulations, and called in his *confrère* Dr. Delobel, oto-laryngologist, who brought the patient to

us. When we saw the patient he complained of a very severe pain at the level of the upper part of the neck behind the larynx. He could only swallow water and a little milk. He spoke with difficulty.

Dr. Delobel showed us a radiograph which indicated nothing very particular. During radioscopy it seemed to him that a dark spot could be seen on the screen, which corresponded to the painful spot indicated by the patient, situated some centimetres above the sternal notch.

The operation was performed under chloroform at our private hospital in the Rue Chanaleilles, at 8.30 in the evening, that is to say twenty hours after the accident. The patient was placed in Rose's position with the head hanging down. It was difficult to fix the gag on account of the very bad state of the teeth. All the

FIG. 1.—Œsophagoscopic appearance of a dental plate impacted in the œsophagus.

time during the administration of chloroform the breathing was bad. He had attacks of suffocation, due probably to the presence of the foreign body which compressed the larynx.

We used a tube of the size of 30 cm. and 13 mm. There was an intense spasm at the upper level of the œsophagus. The annular swelling closed it completely, but local cocainisation partly put a stop to this stricture; nevertheless, it was impossible to push in the tube more than a few centimetres.

Having introduced it thus far, we perceived a little projection of a yellowish-red colour, which occupied the centre of the lumen of the narrow orifice. This was nothing else but the upper end of the dental plate in question (Fig. 1).

We waited a few minutes; it became partly released. We tried to mobilise it with forceps and to draw it gently towards us, but in vain; it seemed to be fixed in the œsophageal wall, but we were

able to make out that this fixation was due to one of the hooks being buried in the wall of the œsophagus; the more we pulled the more it became pushed into this wall (Fig. 2).

FIG. 2.—First step of extraction: the liberation and pushing back of the dental plate.

We then, under the guidance of light, made the following manipulations: with our forceps we seized the visible end, pushing it a little lower down, the dental plate becoming released very easily; we brought it out into a more relaxed part of the œso-

FIG. 3.—The dental plate is withdrawn, after being turned, with its roughnesses and hooks directed in such a way that they may not be able to injure the walls of the œsophagus.

phagus, in the thoracic region. There it was easy for us to reverse its position, to catch hold of the opposite end to that which had previously been visible, and to guide it thus towards the upper extremity. The convex part of the hook being directed upwards, it was impossible, during these manipulations for it to become

fastened to the œsophagus (Fig. 3). Besides, we had very carefully cocaineised the mucous membrane of the upper part of the œsophagus, which, being relaxed in this way, did not again contract over the dental plate. It was therefore impossible that it should again become impacted. In this way the foreign body was brought into the mouth by degrees, and taken out at the same time as the tube.

The sequelæ of the operation were normal; the patient had no temperature; the dysphagia, still intense at first, became progressively less until complete recovery took place.

*Dental Plate extracted from the Œsophagus by Œsophagoscopy;
Recovery.*

CASE 3.—On April 30 Dr. Savariaud brought to us at our clinic a patient who the night before had swallowed his dental plate. He was awakened at 10 o'clock in the night by a severe pain at the middle part of the neck and went to the Hospital Lariboisière, where he was admitted at once under the care of Dr. Reynier. He had complete dysphagia, milk alone passing since the accident. Swallowing without food was equally painful. He complained of severe pain at the base of the neck. A radiograph made at the hospital showed a dark spot at the middle part of the neck.

Operation at 11.30 at the Clinic of La Rue de Chanaleilles, in the presence of Drs. Savariaud and Reynier. Rose's position, head hanging down; cocaineisation of the back of the mouth, of the pharynx, and the upper third of the œsophagus. Hypodermic injection of morphine and atropine before the operation. Introduction of a tube 15 mm. and 30 cm. long, with short mandrin, easy to pass. Once the tube was introduced, a dental plate, which was in a transverse position with the teeth upwards, could be seen plainly 6 cm. down the œsophagus. We seized it with forceps to the right of the teeth and easily released it once the cocaineisation had taken effect. We brought it up to the level of the cricoid, but there it became caught by its hooks. We drove it back a few centimetres into the wider part of the œsophagus, took hold of it by the opposite end, turning it right round, and were fortunate enough to be able to bring it out into the mouth. The duration of the operation was a quarter of an hour. The operation sequelæ were excellent; complete recovery took place. Four days later we showed the patient at the Société de Chirurgie de Paris (May 6, 1908).

Such are the foreign bodies which we have most recently extracted by means of œsophagoscopy.

Three years ago we had the opportunity of extracting a certain number, and since then, by an almost analogous technique we have succeeded in removing thirteen foreign bodies from the bronchi. Œsophagoscopy, the technique of which we do not wish to describe here, having done so elsewhere, is a method which, on the whole, allows of determining exactly the seat of the foreign body much more surely than all the other proceedings formerly employed.

Undoubtedly the X-rays gave results in a certain number of cases and already constituted real progress in establishing the diagnosis, but in the Röntgen-ray image the shadow of the foreign body might be covered by that of the vertebral column or that of the heart (Gottstein).

Many foreign bodies do not give a shadow on the screen; for instance, dental plates, fish-bones, "corozo" buttons. Moreover, a frequent occurrence in connection with foreign bodies in the œsophagus is the displacement to which they may be liable from one moment to another during the operation. They may become released, be swallowed, or change their position.

Relying in this way on radiography, we have formerly searched in the cervical portion of the œsophagus for two foreign bodies—a bone and a dental plate—which were, however, not in the neck, but in the thoracic portion of the tube. The question arises as to what an external operation would have effected in such a case. An external operation (cervical œsophagotomy) would at any rate have been useless for searching in the œsophagus (relying on the indications of radiography) for a foreign body which was in reality in the thorax. Œsophagoscopy alone permits of localising in a precise manner the seat of the foreign body. At the same time it leads, as we shall see, to the most reliable therapeutic effects. It shows how the foreign body is situated, if it is impacted or not, if there are any lesions of the œsophageal walls, and if, working under direct vision, it is possible to liberate it, to mobilise it, and to extract it.

There are certain technical points in regard to these observations which we wish to point out. A dental plate is, one might say, the foreign body whose extraction by the natural passage presents the maximum amount of difficulty on account of its irregular shape and its hooks which threaten to stick into the œsophageal walls at the moment of extraction. All the above-mentioned foreign bodies were very firmly impacted.

What are the agents which fix foreign bodies in the œsophagus? There are two principal agents: Firstly, certain conditions due to the foreign body itself—its volume, its roughness, its points, which stick in the œsophageal walls. But these particulars have always seemed to us accessories in the cases which have come under our observation.

The primary element, that which brings about the fixation of the foreign body, is *spasm*. The irritation produced in the relatively narrow parts of the œsophagus, in particular at the level of the upper region and at the level of the cardia, brings about an intense contraction of the muscular fibres which help to constitute the walls of the œsophagus, and finally causes fixation of these foreign bodies.

Therefore, if by some means this spasm can be overcome, the foreign body can be mobilised at the same time, this being the most important time for performing without danger all manipulations for the extraction. Further, by the light afforded by the œsophagoscope it is possible to introduce a cotton-wool holder and to stop the spasm by means of thorough cocainisation of the mathematically determined spot where the foreign body is situated.

The spasm ceases, it may be said, spontaneously, as soon as the cocainisation is complete. The spasmodic ring relaxes and the foreign body becomes detached, so to speak, of itself. When this does not happen spontaneously it is possible by the help of slight manipulations of the hooks by means of forceps to mobilise it.

So it was, in the dental plate case mentioned above, that we were able to reverse the foreign body completely, placing it in such a position as to render the extraction free from danger to the walls of the œsophagus; we guided it in such a way that its hooks and its roughnesses would not stick into the œsophageal wall. Further, the cocainised mucous membrane no longer arrested the foreign bodies, for it was the spasm which arrested them, and the anæsthesia hindered the production of this spasm.

Lately, in order to facilitate the extraction of the foreign bodies we have used with good result a tube with an oval section, measuring 16 to 18 mm. in its large diameter. We have also had made by Collin a dilatation tube, the two valves of which in opening separate the walls of the œsophagus, releasing the foreign body and protecting the walls of the œsophagus against irritation whilst the extraction is taking place.

All the patients whose cases we have reported above recovered,

so did all those who came under our observation in good time before the onset of cervical or intra-thoracic complications.¹

This is an indication that intervention by means of œsophagoscopy should be as early as possible.

*Spasm of the Cardia of Severe Nature; Diagnosis and Cure by
Œsophagoscopy.*

M. P. DE BOURGES was referred to us during the month of December by our colleague and friend Dr. Millitt. He consulted us on account of difficulty in swallowing. He told us that for two and a half years he had had a certain amount of difficulty in deglutition. The first attack of his complaint dated from July, 1904; having badly masticated a piece of meat he was obliged to interrupt his dinner. Afterwards he had several attacks of dysphagia for liquids as well as for solids. These attacks occurred at the beginning or in the middle of a meal. The patient experienced a kind of contraction at the upper part of the neck when he wished to swallow; his œsophagus, he said, tightened, and he found difficulty in swallowing liquids as well as solids. Sometimes he was obliged to get up from the table, being troubled chiefly by this contraction at the upper part of the neck. At other times he hardly felt this contraction at the upper part, swallowing almost normally, but directly, or some hours after the meal, he had regurgitations or even vomitings, in which he recognised the food he had swallowed.

He complained both of sensations of smarting and burning, and acid regurgitations which came into the mouth from time to time. For all these reasons he had become much thinner during the year. He had lost $7\frac{1}{2}$ lb. ($3\frac{1}{2}$ kilogrammes), and actually only weighed 8 st. 11 lb. (56 kilogrammes). He feared cancer of the œsophagus and was very much tormented by this idea.

His doctor's (D. Clement) treatment consisted in dilatation with olive-shaped bulbs on a whale-bone mandrin; sometimes these passed very well; at other times, on the contrary, they stopped at the level of the cardia.

We made an œsophagoscopic examination towards the end of December, 1907, at our clinic in the Rue Chanaleilles. The examination was made under cocaine and in the recumbent position with a tube of 35 cm. long and 13 mm. in diameter.

¹ In one case which we saw cervical phlegmon had taken place and œsophagoscopy was performed too late.

We found that there was difficulty in introducing the tube at the level of the upper orifice, which was, as a matter of fact, contracted by a violent spasm, the position of which corresponded to the level of the region where the patient chiefly localised his discomfort on swallowing; this orifice, through which an effort was made to push in the tube, had the appearance of a tench's snout, and it seemed to resist all pressure made to penetrate into the œsophagus. We cocaineised with a 10 per cent. solution, and waited a few instants. On pressing lightly with the tube we saw that the mucous membrane unrolled; the œsophagus opened and the tube then entered a large cavity. In fact we found, just below the upper point which was spasmodically contracted, the existence of a large pouch filled with curdled milk and mucus of a sourish odour. There were at least from 5 to 7 oz. (150 to 200 grammes) in this pouch, and as it seemed to us to be only half full we concluded that it could contain at least from 11 to 14 oz. (300 to 400 grammes).

We emptied it of its contents and washed it out. We could then ascertain that the mucous membrane of this pouch was red, especially in its lower third. There were, particularly in this region, papillated hypertrophies; it also bled at the least touch of the cotton-wool holder, and as, on the other hand, there existed in the neighbourhood of the lowest part white patches which were detached with difficulty, we wondered whether they were not plates of leucoplasia, and whether we had not the first stages of cancer to deal with.

The cardia was quite closed; it looked to us like a wrinkled funnel and was very much tightened. It resisted the pressure of the tube and cotton-wool holder; it was immobile, did not make any respiratory movements, and there was no return of liquid from the contents of the stomach. We cocaineised well; it relaxed and allowed of the passage of a soft bougie of No. 20 calibre.

Nevertheless, in view of the precautions indicated by this examination, we did not wish to push the dilatations further, and we postponed the remainder of the examination for a week.

We ordered the patient to wash out the pouch during this period; we recommended for him a milk and egg diet in order to avoid all irritation from *débris* of food in this dilated pouch.

We saw the patient eight days later, that is, on January 6, 1908. He told us that all discomfort on deglutition, at the upper level, had now disappeared. He swallowed much more easily and he no longer had a spasm at this upper part. He felt much relieved

in this respect. Nevertheless, he continued to vomit almost daily and to have regurgitations. We made another œsophagoscopic examination on January 6, and we passed the tube more easily at the level of the upper extremity. After irrigating and cleaning the pouch we were able to ascertain that the œsophageal mucous membrane was still red, but that the white patches which we had seen at the first examination were absent; these were no doubt patches of curdled milk or aphthæ; they could not have been leucoplastic plates.

After irrigation and careful evacuation of the pouch we ascertained that the cardia still had the same appearance as at the first examination; it looked closed and immobile. It seemed to us that this time the diagnosis of simple spasm of the cardia had to be absolutely admitted. It could not be from external compression for it maintained its normal position; it did not seem to us to be pushed more to one side than the other. Besides, after very careful cocainisation it opened easily and soft bougies could be pushed in. We were then able to dilate it and to pass successively large bougies until No. 30 was reached.

The patient was relieved after this sitting; he had much fewer regurgitations; nevertheless, he still continued to vomit from time to time, two or three times during the following week. He no longer felt discomfort or spasm at the upper part of the œsophagus.

Our diagnosis being confirmed, the treatment which we instituted consisted in dilatations every eight days of the cardiac sphincter, and irrigations of the pouch.

The patient himself practised the irrigations every day by means of Faucher's tube, with an alkaline lotion, the object being the avoidance of irritation from the lodgment of particles of food in the œsophageal pouch.

The patient was much improved by this treatment; he had scarcely any more regurgitations, and œsophagoscopic examination showed us that the pouch had diminished to at least two thirds of its original volume. We hoped that it would still diminish, and at our last œsophagoscopic examination we were able to ascertain that the mucous membrane had become absolutely normal, and that it no longer showed any trace of inflammation. Latterly we added to this treatment, in accordance with MM. Thiroloix and Bensaude's indications, anti-spasmodic applications with the high frequency current, which our friend Dr. Delherm was very willing to undertake, hoping thus to diminish and even eliminate the spasm which still persisted (although to a much less degree) at the level of the

cardia. On the other hand, we practised from time to time dilatation of the cardia by means of olive-shaped bougies, and we passed consecutively Nos. 33 to 36, hoping, as had been the case in other patients previously treated, that this mechanical dilatation would act at the same time as a dilator and anti-spasmodic. This catheterisation could now be carried out without the help of the œsophagoscope, the subjacent pouch having diminished to a great extent and no longer acting as a *cul-de-sac*, so that the possibility of making a false passage was removed.

We passed from time to time some bougies with large diameters, Nos. 46 and 47; the spasm has almost entirely disappeared, there having been no vomiting for three months.

The gravity of the complaint in this patient was evident. He was very thin and alimentation was a serious problem to him. He vomited almost invariably all he swallowed—liquids as well as solids. There was, therefore, an *obstruction in the œsophagus*. But at what point was it situated? Clinical signs could not show this precisely. The sensations complained of by the patient were always wrongly localised. So it has been in two of our cases; the patients complained of discomfort at the base of the neck occasioned by the cervical spasm, which was always most clearly perceived by the patient. On the contrary, in a third case the patient complained more of gastric trouble. Patients feel pain in the cardia and localise an obstruction there with difficulty. This explains the frequent errors in localisation and how these affections may be mistaken for dilatation of the stomach with stenosis of the pylorus (Fleiner's case, No. 3, reported by Bécèle, *Soc. Méd. des Hôpitaux*, February 27, 1908).

There are, however, two improved means of localising the obstruction more precisely—catheterism and radioscopy.

The catheter, provided with an olive-shaped bulb, would generally give us information as to whether the spasm is situated well at the cardia. However, in cases of great dilatation with lateral *culs-de-sac*, it is always difficult to find the cardia exactly with a bougie introduced without the help of vision.

Radioscopy, by tests combined with the swallowing of bismuth, shows us the position of the stricture.

But what is the *nature* of this stricture at the level of the cardia? Is it a spasm, or is there a narrowing due to organic lesion, by compression? Neither of the means just mentioned are capable of solving this problem. In all the observations published up till now, of dilatation or of idiopathic spasm of the œsophagus, there

is this want of precision as to this special point, which is so important and which holds the key to the therapeutics.

Œsophagoscopy which gives us the means of seeing directly the affected part, will alone provide a solution to this problem. In addition it gives us information as to the nature of the subjacent pouch, the presence of a dilatation, of diverticula, the exact condition of the mucous membrane, or the existence of other concomitant spasms.

In order to make this examination we use an œsophagoscopic tube of 50 cm. and 13 mm. in ordinary cases. We have been able to make the examination in all our patients under simple local cocainisation. The examination has been possible in a sitting posture. It has always been easy and the patients have lent themselves to it with the greatest confidence, understanding very well that it was a method by which their complaint could be seen and its nature recognised.

The first condition in œsophagoscopy which has struck us is the existence of a spasm, which may be said to be constant at the very commencement of the œsophagus. It is, moreover, to this point that patients generally draw our attention. In one case it was found very difficult to introduce the œsophagoscopic tube, and the œsophageal wall seemed to tighten in front of it. After the local application of cocaine and by taking a few seconds to apply the tube we were able to overcome this spasmodic condition of the entrance very rapidly. We passed over the cervical portion of the œsophagus at once, and came to a more or less vast pouch occupying at least three quarters of the length of the œsophagus. It seemed to us to be of a regular shape and to have developed almost equally from each side of the axis of this canal.

It is of fusiform shape in slight cases; in more chronic cases (which alone need concern us here) it has the shape of a sort of carafe to which the lateral bulgings seemed to extend downwards on each side of the œsophagus. In the patient whose case we have related the left *cul-de-sac* was larger than the right.

What are the œsophagoscopic characters of spasm of the cardia? It is known that normally the cardia has the appearance in the œsophagoscope of a funnel with closed lips, but which is movable along with the movements of respiration. Its orifice opens from time to time, letting out a mucous secretion from the stomach, in bubbles which burst against the interior of the tube (Fig. 4).

In a spasmodic condition this appearance is quite altered. We

know that a spasm does not only attack the cardiac orifice, properly so called, but that it may exist equally at any point of this terminal tubular part of the œsophagus which commences at the diaphragmatic orifice and terminates at the cardia. The œsophagoscopic appearance has seemed to us quite different

FIG. 4.—Esophagoscopic view of normal cardiac orifice.

according as we had to deal with a spasm of the cardiac orifice, properly so-called, or of the diaphragmatic tubular portion of the œsophagus.

In spasm of the *diaphragmatic portion* the lumen of the œsophagus has the appearance of two lips tightly closed one against the other, the walls of the œsophagus seeming to come in

FIG. 5.—Esophagoscopic view of a *spasm* at the level of the diaphragmatic opening.

contact for a certain distance (Fig. 5). On the contrary, if the spasm is of the *cardia properly so-called* the appearance of the cardia is quite different; it is very much folded, and the folds are deep and closely pressed against each other; it takes a funnel-shaped form of more or less depth. The lumen of the œsophagus is absolutely closed and punctiform (Fig. 6). This orifice, contrary

to what is observed in the normal condition, does not allow of the return of any mucous secretion from the stomach at the time of examination with the tube, and it does not move with the respiratory movements. The folds have a concentric appearance, and the orifice itself is always in its normal position and is never

FIG. 6.—Spasm at the level of the cardiac orifice.

displaced laterally, contrary to what one observes in cases of external compression. On pressing with the tube in trying to pass through the cardiac orifice a certain amount of resistance is felt, and the patient complains of pain. But if the cardia is well cocaineised it is soon seen to open, and the tube goes right down to the stomach without much effort.

FIG. 7.—Esophagoscopic view of an ulcerating form of cancer of the oesophagus.

When there is *unquestionable carcinoma* the diagnosis by inspection is of the simplest; the infiltration of the walls and the presence of hæmorrhagic granulations determine the diagnosis (Fig. 7). The diagnosis of *early carcinoma* is more difficult, but in this case the infiltration, the immobility of one of the walls as compared to the flexibility which persists on the other side, the

impossibility of passing the tube farther down than the seat of this infiltration, are some of the characteristics which distinguish it from simple spasm. Further, in the case of cancer the orifice is not completely closed during the examination; mucous secretions constantly return from the stomach, contrary to what is observed in cardio-spasm.

If we dwell further on this point in diagnosis it will be found that it is with carcinoma that cardio-spasm has been most often confounded. It is the affection which patient and doctor dread most among all the spontaneous changes in the œsophagus, and therefore it is important to make an exact diagnosis in order to undertake local treatment if it is possible.

In external compressions of the œsophagus a combination of

Fig. 8.—Œsophagoscopic view of an external compression of the œsophagus from right to left.

symptoms, which suggests simple cardio-spasm, is brought about both by the consecutive organic stenosis and by the spasm which they cause. In two patients who were sent to us with a similar diagnosis, in one case there was compression from ectasia of the abdominal aorta, and in the other compression by an intra-abdominal tumour.

The unilateral inward arching of the wall, the deformity of the lumen of the œsophagus, which had been displaced and pushed over to the opposite side and reduced to a semi-circular slit, is quite different to cardio-spasm (Fig. 8). Besides, in cases of aortic ectasia compressing the œsophagus there are undoubtedly pulsations at the level of the œsophageal wall.

Ordinary cicatricial contractions from burns with caustics are generally easy to diagnose and cannot be mistaken for pure spasm.

TREATMENT.

With this exactness of diagnosis it is to be seen that a *rational treatment* may be instituted. There are many elements to combat in this affection. The first duty in severe cases is to render it possible for the patient to take food and to guard against inanition. Then it is necessary to see that the pouch subjacent to the cardio-spasm diminishes in volume by every means, otherwise the peristaltic movements could no longer cause the food to progress towards the stomach. Secondly the irritation of the mucous membrane, caused by a stagnation of liquids and food in the interior of the pouch itself, must be relieved. Finally and above all it is necessary to combat the cardiac spasm, the contraction of the sphincter, which is the primary cause of this affection. When the cachexia is very advanced it is possible, œsophagoscopy allowing of an exact view of the cardia and its cocaineisation, to catheterise it with a bougie and to provide subsequently for the alimentation of the patient; there is no danger in passing this bougie, as it is certain that there are no parietal lesions. Thanks to the distinctness of the diagnosis, a treatment is possible which has seemed to me very efficacious under the œsophagoscope, but which if done in the dark would be impossible and dangerous, namely *mechanical dilatation of the cardiac sphincter*. It is known that dilatation is recommended in spasm of all orifices, of all sphincters. Is not dilatation performed in spasm of the urethra and of the anal sphincter? There is no fear of going in the wrong direction as when dilatation is practised without the aid of vision. In the latter case the bougie may go into one of the lateral *culs-de-sac*. With the œsophagoscopic tube this inconvenience no longer exists, for not only is it possible to see the exact position of the orifice, but, placed exactly above the cardia, it really serves as a mandrin for the introduction of dilating bougies.

In order to combat the inflammation of the mucous membrane, irrigations should be performed with Faucher's tube and an alkaline solution; these counteract this symptom very well, which keeps up and exaggerates the spasmodic condition of the cardia.

High-frequency currents, the anti-spasmodic power of which is very valuable, are equally applicable. All these means are valuable adjuncts which may be effectively employed, but mechanical dilatation must be the basis of our treatment.

Esophagoscopy has allowed us to follow step by step the pro-

gress of cure in all the patients whom we have treated. The first sign of improvement is diminution of the size of the pouch. The latter was actually reduced to half its size in our patient. The mucous membrane rapidly resumes its pinkish-grey colour under the influence of irrigations and of the more regular working of the œsophagus, which hinders stasis.

The stricture of the cardia gives way with more difficulty; it is that after all which plays the principal part in this affection, and the tenacity with which it persists proves this amply.

We have had occasion to treat four patients suffering from severe cardio-spasm; all four had very marked dilatation of the œsophagus and were in the last stages of cachexia. In all the clinical signs of a diagnosis of cancer of the cardia were present. Esophagoscopy enabled us to establish the diagnosis of spasm and to undertake a treatment which rapidly brought about amelioration of all the symptoms.

(Esophagoscopy has therefore brought an element of accuracy into both the diagnosis and treatment of a very serious affection, which not only brings the patients to a state of inanition, but sooner or later may become complicated by cancerous degeneration.

LARYNGOSTOMY AND TRACHEO-LARYNGOSTOMY IN THE CURE OF SEVERE CHRONIC STENOSIS OF THE LARYNX OR TRACHEA, ESPECIALLY WHEN CICATRICAL.

By Drs. SARGNON AND BARLATIER,
Of Lyons.

(Translated by Mr. CHICHELE NOURSE.)

(Continued from page 415.)

DILATATION with the rubber drainage-tube should be slow and progressive. The degree of dilatation obtained at any time must on no account be lost. If progress becomes difficult a tube of the same calibre should be used for some time before attempting to change it for a larger one. At first the size of the tube can be increased rapidly, except in cases of closure, in which a new laryngeal canal has to be formed.

As a general rule, however, more than one or two sizes should not be passed over at one time, and not even that every time. In the desire to hurry the case along too fast there is a risk of