Oto-Laryngology in Belgium

OTO-LARYNGOLOGY IN BELGIUM.

(*Contributed.*)

IN the month of April the Visiting Association of Throat and Ear Surgeons of Great Britain visited Belgium. The members were greatly indebted to Dr Hennebert and Professor van den Wildenberg for the excellent arrangements made for their reception. The 5th and 6th April were spent in Brussels, and a brief stay was made in Antwerp on the following day.

At the private clinic of Dr Buys (Brussels) a number of interesting demonstrations were given.

The Radical Mastoid Operation without a Flap.—Two cases of cholesteatoma were exhibited, demonstrating the radical mastoid operation in which no plastic flap had been made on the meatus. The method adopted was that introduced by Bárány. One of the patients had been operated upon by Bárány himself two years previously.

The object of the method is to avoid those accumulations of epithelium, wax, and pus which form in the antrum and aditus after a meatal flap has been cut according to the methods of Körner, Panse, and others.

The operation consists in the removal of the bony meatus and the outer attic wall, leaving untouched the cartilaginous meatus. The tympanic membrane with the malleus and incus is removed or left, according to the character of the case. If these structures are removed, the Eustachian tube is curetted. At the end of the operation the mastoid wound is sutured with the exception of the lower end, in which a rubber cigarette drain is placed. In order to avoid stenosis of the meatus, the latter is packed with wool for some days.

From his own experience Dr Buys was very favourably impressed with the new method, which is certainly the best "conservative" type of radical operation known to-day. The technique, while sometimes a little difficult, is always adequate and gives good results. Buys employs the gouge and curette, making particular use of the latter. The burr is specially useful in the cases operated upon under local anæsthesia.

Both the patients exhibited had labyrinthitis and were operated upon under local anæsthesia because Dr Buys prefers this form of anæsthesia in special cases, as it allows the vestibular reactions to be tested during the course of the operation. Anæsthesia is good except in the tympanic cavity itself and the deep part of the meatus; here the novocain injections must be supplemented by the direct application of cocain or Bonain's drops.

In cases of labyrinthine fistula, Buys is careful not to touch the fistula, contenting himself with treating the causal lesions.

Demonstration of an Abnormal Caloric Reaction (non-reversal of nystagmus on inclining the head).—A case of circumscribed labyrinthitis was demonstrated in which the cold caloric test produced nystagmus to the same side and in which, when the head was inclined forwards at an angle of 180°, no reversal of the nystagmus took place. This sign which Buys has noted since 1921, and which has since been observed by other authors, will, no doubt, be of clinical value in the future. It occurs more frequently than is thought. The demonstration was completed by showing that the

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"non-reversal" of the nystagmus was accompanied by another sign, which was easily observed, viz., falling of the patient in the Romberg position and the deviation, when walking, to the side opposite to that of the irrigated ear, when the head is inclined forward.

This is easily understood. In a normal subject, falling occurs to the same side as that of the ear irrigated with cold water, whatever the position of the head, because the nystagmus is reversed with regard to the head but not in relation to the ground, and the falling corresponds. In the case of "non-reversal" the nystagmus and the direction of the fall are reversed in relation to the ground.

The Nystagmograph.—Dr Buys' nystagmograph consists of a Marey's tambour placed above the eyelid; the impulses received by its membrane are transmitted to a registering apparatus resembling the Jaquet cardiograph.

It consists of a binocular frame by means of which the movements of both eyes are shown. The apparatus has two tambours closed by a thin rubber membrane and articulated to one arm of a movable lever. A pressure screw permits of the exact approximation of the globe of the eye with the membrane. The two tambours are connected to the recording apparatus by small rubber tubes. The tambour is placed obliquely at the inner side of the eye for the purpose of recording horizontal nystagmus, and towards the upper part of the bulb for vertical nystagmus. The tracing takes the form of oblique lines alternately ascending and descending.

Uniform Rotation with Nystagmography.—Dr Buys showed his rotating chair propelled by an electric motor, giving a strictly uniform rate of rotation. By means of the nystagmograph a tracing of the two normal forms of nystagmus produced by rotation was made; the direct nystagmus which lasted about thirty-five seconds and the reversed nystagmus coming on later, when the stimulation due to angular acceleration had ceased for some time. The subject experimented on had, at this moment, the sensation of turning in the opposite direction to that in which he had been rotated.

Reversed nystagmus, as well as the reversal of the sensation, are phenomena of central origin.

Another subject placed in the chair was rotated without the use of the nystagmograph; he experienced the sensation of rotating in three directions—normal, reversed, and then back again to normal, the last being a peculiarity not found in all subjects.

The Galvanic "Loss of Balance" Test.—This, the Buys and Hennebert test, was next demonstrated. The method is as follows: A normal subject is placed in the Romberg position, with eyes closed and standing erect with the feet together; one electrode is placed on the tragus and the other in the hand of the opposite side. On passing a weak galvanic current (1 to 2 M.A.) inclination of the whole body is observed. This movement always takes place in a definite direction; if the cathode is on the ear, on making the contact the inclination takes place to the side opposite to the ear stimulated; on breaking the current the patient tends to fall towards the same side. With the anode on the ear the movements are in the opposite direction. This movement varies in amplitude in different subjects, but it is always easily seen. It is more evident if the

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subject places one foot in front of the other, and it is also very clearly shown if he is made to walk with the eyes blindfolded. It is to be noted that the movement is unconscious and that it does not begin for a short time (sometimes one to two seconds) after the making or breaking of the current. According to Quix, it is an otolithic reaction.

Dr Buys always uses the unipolar method, and in order to have the surface of application approximately equal in all cases, he employs a hemispherical electrode (3 cm. in diameter). The advantage of this method is found in the ability to produce vestibular reactions with a very weak current, a weaker current than that which produces the deviation of the head by Babinski's method, and much weaker than that required to produce nystagmus.

Demonstration of Apparatus for Dry Inhalations (Stefanini and Gradenigo's method).—A special installation added to the equipment of the consulting room gives facilities for the use of dry inhalations according to the method of Stefanini and Gradenigo.

The usual methods give a warm, moist vapour. This has certain disadvantages. The patient is made damp and perspires, thus causing weakening. This necessitates also "cooling off" rooms to obviate too sudden changes of temperature.

In the dry, cold method, ordinary vaporisers are worked by means of the constant pressure of an electric pump, to which is added a regulating tank. The vaporising stream is broken up at the bottom of a funnel of special shape, and from there it is guided along a tube which is inclined at varying angles to the horizontal. The fineness of the vapour is regulated by the angle at which this tube is placed. This method gives the finest and driest vapour, which will penetrate as deeply as is desired. The apparatus throws out an abundance of small particles (from 1 to 6 micros.) either saline, amorphous or crystalline. Many substances can be used for these inhalations. As the vapour is produced from the cold liquid, all substances soluble in water can be used. Ready-made solutions, such as the natural mineral waters, can be employed; up to the present, those most in use have been solutions containing chlorine and iodine. Sea-water concentrated by the addition of sea-salt and a certain quantity of iodide, in imitation of Salsomaggiore water, can also be employed.

Experience shows that dry vapours are very well tolerated, better, indeed, than the moist vapours from the ordinary vaporisers.

The general effect of sodium chloride inhalations is to produce diuresis, with an increase of chlorides; often an improvement in the appetite is produced. These inhalations are recommended in cases of nasal, naso-pharyngeal, laryngeal or bronchial catarrh, whether the inflammation be localised or associated with an œdema of the mucous membrane. Chronic catarrhs are favourably influenced, the secretion undergoing a sudden change; this fact has been very noticeable in cases of bronchiectasis. In a patient with bronchiectasis, who expectorated quantities of muco-pus every morning, the secretion almost ceased in one day. Dr Buys cited this case to show the powerful action of this new therapeutic method.

The best results have been obtained in sub-acute affections, such as sub-acute catarrh of the nose, nasopharynx, trachea, and bronchi; it is found to be almost constantly successful. Sometimes the effect is surprising,

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and conditions, which have resisted the most varied treatment for weeks, disappear as if by magic, after a few inhalations.

Instruments—*Intubation Apparatus for Anæsthesia.*—Dr Buys has modified the Kuhn-Halle intubation apparatus. The end of the laryngeal tube consists of one piece, thus making the introduction easier; further, the introducer is hollow, so that the operator can tell by the characteristic sound of the air passing through it, that the tube is in place. Finally, the introducer is shorter and less curved, thus making its removal easier, without fear of dragging out the tube along with it.

Electric Slipper.—In order to obviate the inconvenience of having a fixed electric wire attachment to the Clar and other head-lamps, Dr Buys has devised the following expedient, which allows of the unimpeded movements of the surgeon. On the floor where the operator wishes to stand there is placed a leather slipper lined with copper and connected to the source of electricity; the operator straps to his foot a sandal with a copper sole, the latter being connected to the head-lamp by a cord. In order to make contact and thus light the lamp, the surgeon places the sandalled foot within the slipper. He can release it at will and move about the room without taking off his head-lamp. Similarly he can turn off the light during an operation without the risk of infecting his hands.

Endonasal Masseur.—The apparatus for nasal massage consists of two metal tubes, the one fitting into the other; the inner tube has an olive-shaped end to which is attached a small, soft rubber pocket, like a narrow glove finger. The outer tube has a small opening, through which can be poured medicated liquid, which runs over the surface of the rubber pocket by capillarity and thus bathes the nasal mucous membrane. A vibratory movement is produced in the apparatus by means of the electric pump which is used for massage of the tympanum. The vibrations cause a gentle and comfortable massage of the mucous membrane, which is very useful in chronic catarrhal conditions.

The Radium Institute.—*L'Union Minière du Haut Katanga*, one of the largest copper companies in the world, had discovered before the outbreak of the European War, the existence of uranium-radium ores in its extensive copper deposits in the Belgian Congo. After the cessation of the war, the Company constructed at Oolen, near Antwerp, a factory for the extraction of radium from the various minerals which were sent home from the Congo. The production of radium by this Company is now on so large a scale that it is sufficient to meet the world's demands.

The radium bromide, finally purified at Oolen, is sealed in glass tubes and delivered to the Physical Department for measurement of the radium element content. Upon completion of the measurements, the radium salt is transferred to the Institute at Brussels. Here the visitor has the opportunity of inspecting the construction of the various radium containers, applicators, needles, and plaques designed for therapeutic purposes. Each of these is separately measured for radium element content, and they are officially verified before being distributed for clinical purposes.

When emanations are ordered, the radium bromide is employed. When the radium is enclosed in containers, the sulphate is selected because of its high radium element content, thus making it possible to reduce

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the size of the container to a minimum ; further, on account of its insolubility, the sulphate provides a higher degree of security against loss.

At the *Institut Chirurgical*, in the Avenue de la Couronne, an opportunity is afforded of seeing the practical application of radium and the results obtained in a number of the cases thus treated. The whole subject of irradiation therapy is studied there in a very scientific and thorough manner by Drs Ledoux and F. Sluys, and the results of treatment are carefully tabulated.

Certain rules govern the methods which are adopted by these surgeons when dealing with malignant disease in the area of the nose and throat. In the treatment of epithelial tumours of the maxillary sinus, where the disease is deeply situated and the lymphatics are concealed until they reach the carotid plexus of glands, the tumour must be first exposed in order to render it accessible to the radiations, and to reduce the risk of producing necrosis of the bone. The sinus is opened and curetted and then the radium tubes are inserted. After ligation of the external carotid artery, the cervical glands are removed and, finally, radium applicators are placed upon the neck. In cases of lymphosarcoma and naso-pharyngeal fibroma, X-ray treatment is adopted.

Epithelial tumours of the tonsillar-lingual space have been found very resistant ; the disease spreads rapidly to the lymphatics, and strong and long irradiation is necessary. In the treatment of these cases, the external carotid is tied, the glands are removed and the inferior maxilla is resected ; the latter step is taken in order to avoid necrosis and to obtain sufficient access to the primary seat for the radium applicators. As in the previous case, radium is applied to the neck.

When the tumour affects the larynx, whether intra- or extra-laryngeal in position, a low tracheotomy is first performed and a vulcanite cannula is inserted. The glands are then removed and the thyroid artery ligatured. The alæ of the thyroid cartilage are fenestrated, and the radium is inserted through the punctures ; finally, radium is applied round the neck.

In dealing with malignant disease of the œsophagus, a preliminary gastrostomy is carried out. The limitations of the tumour are then determined. A small chain of radium tubes are introduced by means of the endless thread, and care is taken that not only the tumour but the portion of the œsophagus beyond it is exposed to the irradiation.

Considerable thought has been given to the construction of the most suitable material for the cutaneous application of the radium. The bees-wax applicators introduced by Richard, Monod, and Esguerra have certain disadvantages. They are liable to lose their shape under the influence of the body heat, and the skin often macerates beneath them. Sluys has, therefore, adopted wood strips. A cast is made of the region to be irradiated by means of a layer of bees-wax, the thickness of which is about half a centimetre. This is softened by dipping it for a quarter of an hour in tepid water (50° C.). A plaster mould is then made from the wax cast. On the plaster mould a light canvas is applied, and on to this are glued large wood strips. Upon the first layer of wood a second is glued, forming a "criss-cross" arrangement, and on to the second is placed a third layer. As a rule, three layers are sufficient. These applicators are light, strong, and sufficiently supple. They are

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made waterproof by one or more layers of celluloid. Holes are bored through them at the places where the radium tubes are desired. The latter are fixed in blocks of light wood, to which they are fastened by means of wax or cork, and the blocks are then screwed on to the applicator (Fig. 1). Celluloid has also been used with good results instead of wood.

These applicators have been devised in the hope of dealing with cases in which the neoplastic process has spread over large areas. The future will decide their therapeutic value.

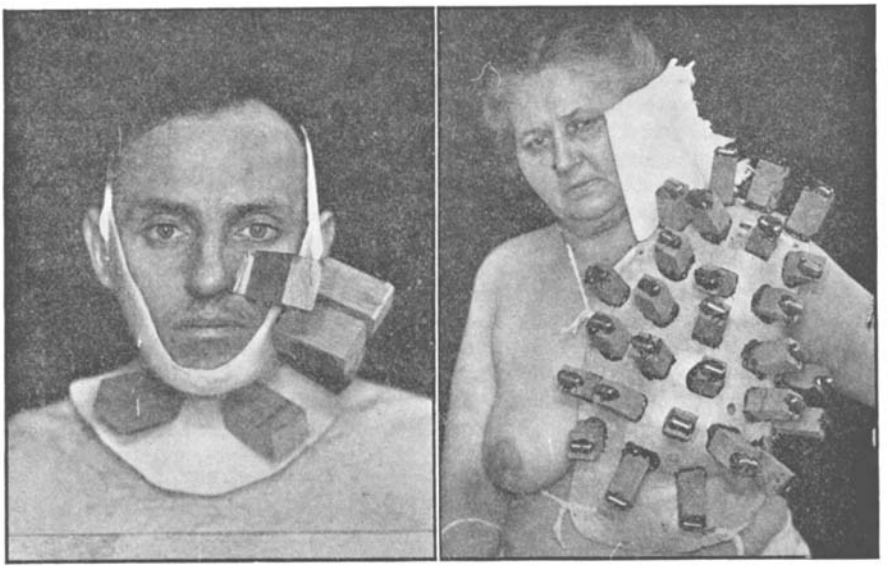


FIG. 1.—The celluloid applicators in position, showing the wood blocks and the radium tubes attached.

Dr Ledoux demonstrated the case of a male patient with malignant disease of the right tonsil, the side of the tongue, and the contiguous portion of the jaw. The lymphatic glands draining the affected area had been previously removed by the surgeon. A preliminary preparation, in which cocain and novocain were employed, with the addition of Bonain's drops, rendered the parts anæsthetic. Six hollow needles, each containing 1 mgr. of radium, were inserted into the tonsil. The first was inserted through the mouth and introduced from behind forwards by means of an instrument resembling artery forceps. The second needle was introduced from before backwards with a similar instrument. The ligatures attached to the two needles were then tied together and the ends brought out of the mouth. In the same way a second and a third pair of radium needles were inserted and attached. Four needles were placed in the tongue, thus giving a total of ten. They were allowed to remain from six to ten days.

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Dr Ledoux also exhibited a patient who, one and a half years previously, had suffered from epithelioma of the middle third of the left vocal cord. Treatment by radium had been employed. The vocal cord presented a perfectly normal appearance, and without previous knowledge of the site of the lesion, it would have been impossible to determine which cord had been affected. The patient spoke in a perfectly natural voice.

Tonsils and Adenoids in Children.—Dr Heyninx, at the Brugmann Hospital, discussed the question of operations upon out-patients. These were never performed on children sent in from the country. The children were kept in hospital for one night, whereas those who lived in the town were operated upon as out-patients and allowed to return home later in the day. Heyninx lays great stress on the value of iodine irrigation of the nose for several days before operation, as a means of preventing after-complications. He uses three drops of the tincture to about 5 oz. of water, and makes the parents introduce it into the nose with a teaspoon. He is much opposed to syringing of the nose.

Dr Janquet, at the Hospital St Jean, operates upon all the children as in-patients, admitting them to hospital for the removal of tonsils at 2 P.M. on the day prior to operation. They remain in hospital for two nights.

Dr Janquet is an advocate of ethyl bromide as an anæsthetic. He has used it for thirty years without accident, and considers that it is not a dangerous drug only so long as it is properly given. The method which he employs consists in placing an impregnated open mask over the child's face and counting twenty seconds from the first respiration which the child gives. As a result of experience they have learnt that the child is always under in twenty seconds. The duration of time during which the anæsthetic is administered is the point of importance, and not the quantity given; it is not possible to do more than saturate the air which is passing through the mask. Janquet has found that the patient is always unconscious for thirty-five seconds after administering the anæsthetic in this way.

He is also an advocate of "tonsillectomy." He considers that hæmorrhage is always due to a piece of tonsil being left in the fossa. He urges the "radical" cure of adenoids, using the finger to complete the operation after the curette. He was seen to perform a number of operations by this method. The depth of anæsthesia obtained by him was not as great as that which it is customary to have in this country, even in those clinics in which a very superficial anæsthesia is adopted. The child is held in the erect position by the nurse. The tonsils are removed by "morcellement." Examination after removal failed to reveal the capsule, indicating that the word "tonsillectomy" was employed in a different sense from that in which it is used in this country.

Antwerp.

Operations at the Gasthuis Marie.—At the clinic of Professor van den Wildenberg an intranasal operation on the frontal and ethmoidal sinuses was performed, under local anæsthesia, upon a young woman. No attempt was made to obtain the anæsthesia by nerve blocking; both subcutaneous and submucous injection of novocain was employed, the latter being carried out before the surface application of cocain was made to the nasal

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mucosa. After the injection, the nasal cavity was packed with cocain and adrenalin in order to obtain hæmostasis, and during the operation 20 per cent. cocain was freely used in the form of a spray.

The patient was placed in a chair in the sitting posture. Earlier in the day a submucous resection of the nasal septum had been performed under local anæsthesia. Stress was laid upon the advisability of making a flap of mucous membrane before commencing to interfere with the bone. In opening up the fronto-nasal passage, considerable use was made of the chisel and hammer, and the electric burr was also freely employed. It was evident that an opening of considerable size was obtained.

Narrowing of the Nasal Cavities in Ozæna. — Professor van den Wildenberg advocates the operative treatment in fetid atrophic rhinitis. For at least three years he has practised narrowing of the nasal cavities and his results have been very satisfactory. Two patients were exhibited, a brother and sister; the latter had found her position as a parlour maid intolerable until the operation was performed nearly three years ago. Since that time her nasal condition was not even suspected by anyone in the house.

The operation was demonstrated upon a young woman. Novocain was injected submucously and the nasal cavities packed with a tampon soaked in cocain and adrenalin. The operation consisted in approximating the naso-antral wall to the septum. The turbinals and the opposing surface of the nasal septum were first cauterised in order to assist in effecting adhesions. An incision carried down to the bone was then made on the lateral nasal wall through the mucous membrane, from a point anterior to the middle turbinal. The incision extended downwards and then across the floor of the nose on to the septum nasi. The nasal muco-periosteum was then raised and the chisel was applied to the anterior part of the naso-antral wall. Through the hole thus made a piece of bone was removed and two elevators were inserted into the antral cavity; considerable force was then exerted and the antral wall was levered medially towards the nasal septum. The necessity of exerting considerable force in this manœuvre was insisted upon by the operator. The antral cavity was then packed through the incision with a long strip of gauze, slightly impregnated with iodoform, the nasal wall of the cavity being pushed medially and held in position by the packing. The gauze tampons were used for one month after the operation, being changed every ten days.

In no instance had any post-operative sepsis arisen; none of the patients had suffered from acute middle-ear suppuration. In rare instances only had associated antral disease been found in the cases of ozæna thus operated upon.

The Institute of Helio and Finsen Therapy—A short visit was paid to the Institute in the rue Biard. Here great activity was displayed in the treatment of the many forms of tuberculosis. The Finsen local treatment of lupus was demonstrated, carried out along lines similar to those seen in Copenhagen. Four interesting cases of children who had been under treatment by helio-therapy were exhibited, each of whom had been cured: one was a case of tuberculous peritonitis, one had suffered from tuberculous cervical glands, one from Potts' disease of the spine, and one from a diffuse condition of cutaneous lupus.

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