ABSTRACTS

THE EAR

Septic Phlebitis in the Cranial Blood Sinuses: Three different Types. H. BURGER. (*Acta Oto-Laryngologica*, Vol. iii., fasc. 1-2, February 1924.)

The author deals with the subject of septic thrombosis in the lateral sinus, cavernous sinus, and longitudinal sinus. The most frequent cause of lateral sinus thrombosis is middle-ear suppuration. The rarer thrombosis of the cavernous sinus is often caused by affections of the nasal accessory sinuses, and in more than half of the collected observations by a sphenoidal sinusitis. Thrombosis of the longitudinal sinus is most often consecutive to a frontal sinusitis.

The lateral sinus is infected by direct contact with the focus of suppuration in the temporal bone. The cavernous sinus is infected by foci of suppuration of aural and nasal origin, and of these, on the one hand, by way of a thrombosis of the superior petrosal sinus; on the other, directly by osteitis of the mastoid. Thrombosis of the cavernous sinus, of nasal origin, is produced by direct contact with an osteitis of the body of the sphenoid, through thrombosis in different venous trunks which communicate with the cavernous sinus, and also by infection propagated along the olfactory and optic nerves. The track of the spread of infection is often difficult to make out both in the living subject and at autopsy.

The infection reaches the longitudinal sinus by the venous anastomoses, by an extradural abscess in connection with the frontal air-sinus, or from an osteomyelitis of the frontal bone. Among the clinical symptoms which accompany phlebitis of the sinuses the most pronounced are pyæmic temperature and shivering attacks in lateral sinus thrombosis, ocular phenomena due to stasis in thrombosis of the cavernous sinus, and meningeal and cerebral symptoms in longitudinal sinus thrombosis. The treatment is often relatively simple in lateral sinus thrombosis, on the contrary, very difficult in cavernous sinus thrombosis, because of anatomical conditions. The surgical treatment of longitudinal sinus thrombosis is not yet sufficiently elaborated. The prognosis of lateral sinus thrombosis is relatively good; that of cavernous sinus and longitudinal sinus thrombosis extremely bad. H. V. FORSTER.

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Abstracts

Diseased Conditions of the Cerebello-Pontine Angle. Dr J. LÜCKHOFF. (*South African Medical Record*, Vol. xxii., No. 1, p. 2, January 1924.)

Three interesting cases are described. Case I.—Female, aged 26, with tinnitus, vertigo, progressive deafness, headaches, occasional falling and vomiting. Later on diplopia, facial twitchings and numbness of the right side of the face, rapid loss of vision, uncertain gait, slurring speech, dribbling of saliva from right side of mouth, regurgitation of fluids through the nose. On examination, the pupils were dilated and reactionless, optic discs showed atrophy. The tympanic membranes were normal, right ear totally deaf, left ear defective in hearing. Spontaneous oscillating nystagmus of wide excursion to the right was observed; vestibular in character. There was spontaneous past-pointing to the right and adiadokokinesia, and on standing or walking she fell to the right. The right labyrinth did not respond to cold syringing but there was a little response on the left side, though spontaneous past-pointing was not influenced and there was no vertigo. The case is one of rapid onset, the first symptoms occurring only a year previously.

Case II.—A man, aged 34, tinnitus and slight deafness of four weeks' duration, giddiness and staggering for a fortnight and severe earache for one week; complete right facial paralysis; he falls to the right, staggers on walking; slight (atypical) nystagmus to the left, adiadokokinesia, no inco-ordination of upper limb; eyes normal.

The temperature was 99.8°; middle ears normal; right ear slightly deaf. Three days later right ear totally deaf and right labyrinth dead. There was, therefore, a paralysis of the acoustic, vestibular and facial nerves developing very rapidly. Wassermann strongly positive. *Treatment by intravenous galyl and mercury by mouth and skin.* In five weeks he heard a low voice at five yards and the facial nerve was normal in function. The diagnosis was gumma of the cerebello-pontine angle.

Case III.—Youth, aged 17, with history of a suppurative middle ear on and off for ten years, sudden rigor, temperature 103.6°, pain right side of head; he vomited for first time on admission to hospital. Neck stiff and painful, deep tenderness behind the right mastoid; he lay with right eye closed owing to the diplopia on looking forward. Fundi are normal. The right middle ear showed a perforation and pus. Labyrinth tests not done. Mastoid was opened and pus found in superficial cells and antrum. Extradural abscess over the area of the lateral sinus which contained a septic thrombus which was cleared out. Immediate relief was considerable, but temperature swung between normal and 100° F. with a slow pulse. On the 12th day he presented inco-ordination on right side with adiadokokinesia and past-pointing

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to the right and a rotatory nystagmus to either side but more marked to the right. The cerebellum was explored; five days later it was again explored with no success, the operation being carried out from the posterior surface of the petrous bone; five days later sudden death.

Post-mortem revealed an extradural abscess containing two ounces of pus, situated in the cerebello-pontine angle. It had pressed the medulla aside and probably caused death by pressure. There was no abscess in the cerebellum and no leptomeningitis. The author is of opinion that the localised extradural abscess was metastatic, and considers diplopia on looking forward to be a symptom of deep involvement of the posterior fossa. It is unfortunate that the labyrinthine and cochlear tests were not recorded.

ANDREW CAMPBELL.

THE NOSE AND ACCESSORY SINUSES.

The Modern Treatment of Ozæna (Lautenschläger Operation). WM. MITHOEFER, M.D. (*Annals of Otology, Rhinology and Laryngology*, Vol. xxxiii., No. 4, June 1924.)

Lautenschläger, quoting Mithoefer, maintains that all cases of ozæna are the end-results of nasal sinus infection contracted in childhood. The constant infection causes circulatory changes which affect the nutrition of both the mucous membrane and the underlying bone. The lack of nutrition results in atrophy of the mucous membrane and sclerosis of the bone. Both these changes bring about an abnormal enlargement of the nasal cavity. The extreme width of the cavity upsets the normal balance between nasal secretion and evaporation, with the result that the nasal secretion is stimulated to cope with the excessive evaporation. The excessive secretion, which also is altered in character, leads to crust formation.

Mithoefer, after a study of six cases operated upon, considers that the nasal accessory sinus plays an important part in the etiology of ozæna. In all his cases the maxillary and ethmoidal sinuses were pathological. An operation, devised for the cure of ozæna, should accomplish three things: first, the cure of the sinus disease, secondly, the narrowing of the nasal cavity, and lastly, the stimulation of the nasal mucous membrane to an increased flow of mucus.

Mithoefer claims that the Lautenschläger operation fulfils all these ideals.

(For description of operative technic (see *Journal of Laryngology and Otology*, December 1921, trans. of Halle's paper by J. B. Horgan; and in the same Journal, January 1924, Critical Review

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by W. M. Mollison; and September 1924, paper by W. S. Syme on Displacement of the Antro-Nasal Wall in Atrophic Rhinitis.)

Mithoefer states that he is impressed with the results of the operation although the number of cases is small. He intends, in future cases, to use cartilage transplants, as possibly there may be some absorption of the bone transplants. He considers the Halle operation easier to do, but there is a tendency for recession of the naso-antral wall during the next year or so.

Mithoefer contends that the use of the antral pack is of value as the circulation is thereby increased.

The following end-results are given. The fœtor entirely disappears, the mucosa is hypertrophic, and except for an occasional crust around the middle turbinate body the nose is free from crusting.

F. Holt Diggle.

Blindness and other Ocular Defects due to Nasal Disease. G. W. Dawson. (*Lancet*, Vol. ii., 318, 1924.)

The author describes four interesting and important cases illustrating how blindness and other ocular lesions may result from inflammatory conditions in the nose. His conclusions are noteworthy. In cases where obvious nasal disease is present, the duty of the surgeon is clear as to exploration and draining of the sinuses. Even when no abnormality can be seen in the nose, exploration should be undertaken when every other cause of optic neuritis has been excluded. In narrow noses, Dawson advocates submucous resection of the septum, whether deviated or not, because of the extra room thus afforded and the resulting better view. Macleod Yearsley.

Wide Opening of the Antrum through the Nose. Dahmer, Berlin. (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Vol. viii., Part IV., p. 44.)

The incision runs in a curve from in front of the insertion of the middle turbinal to the middle of the floor of the nose. After elevation of the mucous membrane the nasal wall of the antrum is chiselled away as near as possible to the margin of the pyriform aperture, so as to make it possible to clear out the anterior angle of the cavity. The anterior part of the middle (*sic*) turbinal is removed with scissors and snare and the opening is continued downwards, so as to allow of a smooth continuity between the floor of the nose and that of the antrum. The electric burr may be used instead of the chisel and mallet. James Dundas-Grant.

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Nose and Accessory Sinuses

A Simple Method for Radical Operation on the Antrum. A. GLASSCHEIB, Berlin. (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Vol vii., Part I., p. 127.)

The middle-sized Killian speculum is introduced under the inferior turbinal and opened so as to force the bone medially. A curved incision is made nearly as high as its attachment along the outer wall of the inferior meatus, dropping at the posterior part down to the floor of the nose. Another is made vertically from the front of the attachment of the middle turbinal down to the floor, thus meeting and crossing the former one about 3 mm. behind the margin of the pyriform aperture. The resulting flap under the inferior turbinal is detached by means of a septal raspatory, and the exposed bone is chiselled away or chipped out with Citelli's punch. The bone above this is chiselled *through* the muco-periosteum and then cut away. An elevator is then pushed through the opening into the antrum and with it the remains of the inner wall of the antrum are levered towards the septum and the speculum is introduced into the antrum, giving a good view and room for scraping out. The "flap" is pushed in on to the floor of the antrum, the inferior turbinal being pressed back into its normal position. Strips of iodoform gauze are placed in the antrum and between the inferior turbinated body and the septum. JAMES DUNDAS-GRANT.

On the Technic of Intranasal Dacryocystostomy. Dr NÜHSMANN, Halle a/S. (*Archiv für Ohren-, Nasen-, und Kehlkopfheilkunde*, III Bd., 3/4 Heft.)

The writer proposes the following modification of the operation. A linear incision is made anteriorly over the insertion of the middle turbinated bone, the mucous membrane beyond the incision is freely separated by means of an elevator, and a cocainised tampon is introduced into the depths of the inverted pocket thus made. To expose the sac the chisel is directed towards the lachrymal caruncle. Nühsmann deprecates the use of callipers as unnecessary, nor does he approve of locating the sac by tracing the naso-lachrymal duct upwards. A probe is passed along the inferior canaliculus causing the nasal wall of the sac to protrude inwards. At the point where the tip of the probe impinges on the still intact flap of mucous membrane, a window is made in the latter by punch forceps, the deep blade of which is passed through the first incision. The sac wall is seized with forceps and excised with a special knife. (The blade, razor sharp, is like that of a Syme's abscess knife but curved on the flat, and set 145° to the shaft. It has a cranked mount and is right- and left-handed.) To

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facilitate this step the author, following Clausen, has lately injected the sac with paraffin.

The special bistoury is manufactured by Baumgartel, Halle a/S. Gr. Steinstr., 17. WM. OLIVER LODGE.

THE ŒSOPHAGUS.

Two Cases of Descending Retro-Œsophageal Abscess, with Phlegmon of the Neck and Threatening Mediastinitis: External Operation through the Vascular Route: Prophylactic Collar: Mediastinotomy: Recovery. Dr GLOGAU. (*Laryngoscope*, Vol. xxxiii., No. 4, p. 290.)

The first case presented a descending retro-œsophageal abscess, with phlegmon of the neck and threatening mediastinitis, in a child aged 11 months. The second case was a man aged 30, who developed a swelling in the neck after a cold. At the level of the posterior laryngeal wall, a forward bulging of the œsophageal mucous membrane, which was highly inflamed, was noticed. There was a diffuse infiltration in front of the left sternomastoid muscle. The operation in each case consisted in making an incision along the anterior margin of the sternomastoid and locating the sheath of the great vessels. The omo-hyoid was then severed, and the anterior mediastinum exposed and packed with iodoform gauze. The thyroid gland was then pushed forwards and medially, and by lifting it the posterior mediastinum was exposed and sealed with iodoform gauze packing (prophylactic mediastinotomy of Marschik). Next, the above cavity was searched for in the upper part of the wound with the vascular sheath as a guide, and an incision was made medially at the level of the cricoid cartilage, while the larynx was pulled forward. In the first case five, and in the second, six ounces of pus escaped. The wound was drained for a week, the mediastinal tampons being removed on the fourth day.

In both cases, there was a solid indurated mass around the vascular sheath. The external drainage which resulted, together with the sealing of the mediastinum, has proved in these two and in other cases to be a truly life-saving operation.

ANDREW CAMPBELL.

A Case of Pharyngo-Œsophageal Diverticulum: Two-stage Operation: Cure. E. FINOCHIETTO. (*Boletines y Trabajos de la Sociedad de Cirugia de Buenos Aires*, Vol. vi., No. 31, p. 925, 1922.)

A man of 59 years had dysphagia and excess of salivation for nine years. The symptoms began suddenly and the patient noticed later that food was held up in the upper part of the œsophagus and was only passed on in small quantities. He was able to expel the contents

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of the sac at will, and it appeared to contain about 200 c.c. of material. X-rays showed a sac with its opening at the level of the larynx and the mouth was seen by the œsophagoscope. The operation was performed under local anæsthesia. The omo-hyoid was cut and the inferior thyroid vessels were divided between ligatures.

The sac was easily drawn up out of the thorax and was brought out of the wound. The aponeurosis and the skin were sutured separately and the part of the sac which was drawn out was wrapped in iodoform gauze. An abscess formed round the neck of the sac probably due to a small puncture of the wall during the operation which was closed by a purse-string suture. The abscess was opened and irrigated for twenty-four hours by means of Carrel's tubes. The inflammation rapidly subsided and the second stage of the operation was performed on the eighteenth day. The neck of the sac was dissected out, incised, and the stump invaginated and sutured over. The wound healed by first intention and the result was perfect.

F. C. Ormerod.

A Case of Pharyngo-Œsophageal Diverticulum. Dr E. L. Villa. (*Boletines y Trabajos de la Sociedad de Cirugia de Buenos Aires*, Vol. vi., No. 29, p. 852, 1922.)

A woman, 57 years of age, gave a history of two years' excess of saliva and a sensation of a lump in the throat which gradually developed into a feeling of constriction in the neck whenever she attempted to swallow. Food and drink could only be taken slowly and in very small quantities. Food was regurgitated, and on examination showed no signs of having been in the stomach. On pressing the sides of the neck there were borborygmi and regurgitation into the mouth. X-ray examination showed a pouch behind and to the right of the œsophagus which extended into the thorax.

The sac was removed in a one-stage operation through an incision behind the right sternomastoid muscle, the carotid sheath and its contents being retracted forwards. The sac was easily freed, removed, and the neck invaginated. The operation was followed by an abscess in the deeper parts of the neck which was opened on the third day and rapidly cleared up. The functional result was excellent.

A theory as to the development held by a few authors is that the sac is a congenital abnormality due to a defective closure of the fourth branchial cleft. The more popular theory is that it is the result of pressure on the weak spot in the posterior wall of the pharynx where the longitudinal fibres of the œsophageal muscular wall diverge. The exciting cause is prolonged abnormal intra-pharyngeal tension.

Medical treatment can only be directed towards keeping the sac empty and preventing decomposition in its cavity. Operation can be

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done in one or two stages. The one-stage operation is the ideal, removing the sac and invaginating the stump. In the two-stage operation the risk of cellulitis and mediastinitis is lessened, and some surgeons even perform a preliminary gastrostomy to lessen this risk.

F. C. ORMEROD.

Œsophageal Diverticula. VICTOR FAIREN, Saragosse. (*Annales des Maladies de l'Oreille, etc.*, January 1924.)

These pouches may be met with in any segment of the œsophagus, but are most commonly encountered at the junction of the pharynx and œsophagus. The symptoms are mostly œsophageal, hence the usual description of the condition. They may be congenital, or acquired, the result of traction or thrusting, on the wall of the œsophagus. At the junction of the pharynx and œsophagus, the muscular bands may be very thin. Indeed, there may be a hiatus between the circular and oblique layers, where the mucosa may be invaginated. If, for any reason, the entrance to the œsophagus be stenosed, deglutition forces the bolus of food against the wall at the weak part. All causes of stenosis, inflammation, spasm, cicatrix, favour the formation of pouching. Foreign bodies lying undisturbed, as in children, may play an important rôle. Paresis and conditions causing inco-ordination between the muscles of the pharynx and œsophagus are an almost equally important factor. Traumatic rupture is rare.

Opinions differ as to the presence of muscle fibres in the wall of the sac. The writer, however, has seen by means of skiagraphy the wall of a pouch contracting vigorously. The dimensions of the sac vary from about the size of a walnut—and before it attains to this size there are few symptoms—to a tumour filling a large part of the neck and thorax. The shape is usually globular, but may be cylindrical, pyriform or appendicular. In 133 cases the age incidence was as follows :—

From 25 to 40 years	4 men	0 women.
„ 40 „ 50 „	32 „	4 „
„ 50 „ 60 „	49 „	3 „
„ 60 „ 80 „	38 „	3 „

The majority of the cases were in men.

Where the sac becomes of large size, retention of fermenting food sets up a train of obvious symptoms. Œsophagoscopy allows of easy diagnosis. Death may supervene from inanition or septic conditions, or the sac may rupture spontaneously through the skin.

Treatment is essentially surgical. Any method which involved suturing in the œsophagus usually failed on account of leakage through the stitches. The Mayo brothers devised a scheme whereby

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the sac was dissected out in the first stage. At the second stage, the sac was ablated obviating the dangerous condition of the dead space. Diverticulopexy has given the best results. In this operation, the sac is dissected out, the most distal part of it is sutured to the neck muscles above the opening of the pouch, and the neck of the sac is sutured at a later stage when the wall of the cavity has regained a more healthy condition. The operation is greatly assisted by a preliminary passage of two sounds, one into the sac, the other into the œsophagus. GAVIN YOUNG.

The X-Ray Diagnosis of Surgical Conditions of the Œsophagus. Dr HENRY K. PANCRAST. (*The Surgical Clinics of North America*, February 1924.)

The author insists upon the importance of X-ray examination before other forms of clinical examination, such as the use of the bougie or œsophagoscope.

He states that if he were limited to the introduction of one form of opaque substance he would certainly select the capsule in preference to fluid suspensions or paste.

In describing the three routine positions adopted in examination, he lays stress on the "obliquely prone" position, as in this the act of swallowing the passage of food is much slower, especially facilitating fluoroscopy.

The writer then proceeds to enumerate the conditions for which examinations of this kind become necessary, and the technique which is likely to give the best results in each case; he calls attention to the fact that very early obstruction due to the presence of new growth, or of a small non-opaque foreign body, is demonstrated by the opaque capsule, when these can be detected by no other method.

The article is illustrated by a number of radiographs.

J. B. CAVENAGH.

The Keen Operation for Cicatricial Stenosis. CHEVALIER JACKSON, M.D., and W. W. KEEN, M.D., Philadelphia. (*Journ. Amer. Med. Assoc.*, Vol. lxxxii., No. 25, 21st June 1924.)

The report deals with a case of cicatricial tracheal stenosis and describes a unique operation devised by Dr Keen and used by him on a patient twenty-five years ago. On laryngoscopic examination a small, nearly round opening was seen a short distance below the vocal cords. The diameter of this opening was about half the distance of the vocal bands from each other, and was taken to be a

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stenosis, a short distance below the cricoid and extending over somewhat more than one ring. The operation consisted in opening the trachea for about six or seven rings and splitting the cricoid. The mucous membrane was dissected back as two flaps upward and downward over all the area of the stricture. The fibrous tissue was then dissected out. The mucous membrane was closed with silk sutures. The trachea was completely closed with catgut stitches and the skin with silkworm-gut. The result was highly satisfactory. Twenty-one years later, on bronchoscopic examination, a membranous web was revealed on the anterior wall at the level of the fourth ring. Jackson's endoscopic bougies were used to dilate the narrowed opening, which resulted in an entire disappearance of the constriction. The gradual contraction of the submucosal cicatricial tissue probably caused the drawing of the web-like structure across the tracheal lumen, giving the appearance noted on bronchoscopic examination.

PERRY GOLDSMITH.

The Treatment of Spasmogenic Œsophageal Dilatation. HUGO STARCK. (*Münch. Med. Wochenschrift*, No. 11, Jahr 71.)

The writer deals with those forms of œsophageal dilatation which result from muscular spasm in the region of the cardiac orifice. The only possible method of curing these cases is to rupture the contracted muscle fibres in the cardiac sphincter. In the vast majority of cases this, if carried out once, is conducive to permanent cure. The clinical result is a brilliant one, as the patient feels that he has been suddenly transformed from a sick to a healthy individual.

To achieve his aim, Starck has for the past eight years been using a metal instrument of his own design which he finds very successful. The instrument is characterised by the ease with which it can be introduced and by its relative lightness, the shaft being both thin and malleable. After its introduction the handle of the instrument is held between the fingers and the ball of the thumb. It is so designed as to admit of very powerful action. By approximating the components of the handle the four metal spars which comprise the lower part of the shaft are gradually separated. The spars can be separated to a maximum of 12 cm. and the actual amount of separation at any moment is automatically indicated on the handle of the instrument. Malleable end-pieces are provided for screw attachment to the lower end of the shaft, so as to adapt its introduction to the abnormal configuration of individual cases.

The introduction of the instrument is analogous to the passage of an ordinary bougie. To ensure the proper position of the dilating mechanism the first dilatation is always carried out standing behind

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a Röntgen screen, after a thorough cleansing of the dilated œsophagus. The required depth of the instrument is noted, in case that subsequent dilatation may be necessary.

In its passage to the stomach the instrument may be held up by abnormalities in the shape or direction of the passage or by excessive spasm of the sphincteric muscles. The former difficulty is overcome by using an appropriately shaped introductory terminal, and the latter by patience, ten minutes being, if necessary, devoted to waiting patiently for the cardia to open after the terminal portion of the instrument has been properly placed.

The surgeon should endeavour to attain his object in one sitting and at once. This is only possible by rupturing the contracted ring. The dilatation must rapidly attain the maximum given by the instrument. The sensation to the surgeon is characteristic. The resistance ceases suddenly and the maximal dilatation then follows without the least resistance. The ruptured muscle ring is devoid of tone.

The patient experiences a singular, sudden, and severe pain at the moment of rupture, which rapidly subsides. The mucosa suffers an inappreciable amount of trauma. JAMES B. HORGAN.

A Method of Intubating the Œsophagus for Malignant Stricture. H. S. SOUTTAR, C.B.E., F.R.C.S. (*Brit. Med. Journ.*, 3rd May 1924.)

A flexible metal tube consisting of a simple close spiral of German silver wire is used to "canalise" the mass of growth, and can be left in position indefinitely as it does not become foul like a rubber tube. "The insertion of the tube through the œsophagoscope is a simple matter. The stricture is slowly dilated as far as is considered safe, probably to a diameter of 8 or 10 mm. A small bougie is passed right through, and along this as a guide, a tube of appropriate size is passed into position. The tube is inspected, and if it appears satisfactory the œsophagoscope is withdrawn." The position can be verified by X-ray examination. If used for a cardiac stricture the tube must be slightly bent to avoid the expulsion by gastric contractions.

One case is quoted at length. A man who had a fungating growth in the mid-dorsal segment of the œsophagus after repeated dilatations extending over a year, was admitted desperately ill, having swallowed nothing for four days. Intubation was followed by quick recovery, and at the date of writing, the tube had remained in position without removal for ten months, while the patient had put on weight and was in excellent health. T. RITCHIE RODGER.

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Abstracts

LOCAL ANÆSTHESIA.

Preliminary Report on Cocain, Butyn, Tutocain and other Local Anæsthetics. A. J. COPELAND, M.A., M.B., D.P.H., B.Sc. (*Brit. Med. Journ.*, 12th July 1924.)

Tables are given showing the anæsthetic efficiency of the various drugs as tested on the cornea of the rabbit—also their "side actions," vascular reactions, sensory irritation, etc. Further tables show the comparative effects on nerve fibres, the minimal lethal doses, and the minimum convulsion-producing dose. Tutocain has one-third the anæsthetic power of cocain and seven times that of novocain, but the anæsthesia is slow in onset. The conclusions are enumerated thus :—

1. The experiments show that the best of the local anæsthetics for the eye are cocain and butyn. Tutocain may also have a use. Tropacocain, novocain and eucain are less valuable for deep anæsthesia.
2. For the nose, cocain and tutocain are alone useful.
3. For subcutaneous injection, novocain is much the best.
4. In addition to cocain it is believed that the properties of butyn and tutocain may render them addiction drugs.

T. RITCHIE RODGER.

Tutocain, a New Anæsthetic. KURT TEICHERT. (*Münch. Med. Wochenschrift*, No. 32, Jahr. 71.)

Tutocain (F. Bayer & Co.) is the hydrochloride of a base which forms small white crystals readily soluble in water. It is not destroyed by boiling, and the solution, put up in ampoules, retains its efficiency. It dilates the blood vessels so that a suprarenal addition is required.

Schulemann finds that it is twice as toxic as novocain, but half as toxic as cocain. It has been successfully used both as a local anæsthetic and in the production of spinal anæsthesia.

To induce local (infiltration) anæsthesia the writer uses a 0.12 per cent. to a 0.2 per cent. solution with the addition of five drops of a 1 to 1000 suprarenin solution to every 50 c.c. of the 0.2 per cent. solution. Of this solution as much as 125 c.c. have been injected. The anæsthesia is immediate and lasts five hours. The drug has been found efficient for the purpose of anæsthetising mucous membranes.

JAMES B. HORGAN.

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Local Anæsthesia

Comparative Investigations on the Effect of Cocain and Psikain. K. BERINGER and K. WILMANNS. (*Münch. Med. Wochenschrift*, No. 26, Jahr. 71.)

The experiments were made on students who, on alternate days, were injected subcutaneously with graduated doses of cocain and of psikain solutions, a dummy injection of normal saline solution being given at the start to check the possible occurrence of auto-suggestive symptoms.

Five students were employed, one of whom, a male student, developed dangerous symptoms when a dose of no more than 0.05 (?) of cocain was injected. With this drug, practically every case exhibited transient nausea and acceleration of the pulse, and an increase of the blood pressure by about 30 mm. Hg. With psikain neither nausea nor collapse was observed, and there was no appreciable alteration in the pulse rate; on the other hand, a diminution of the blood pressure by about 10 mm. Hg was usually noted.

The psychological reaction to cocain, although very different in individual cases, was invariably present when as much as 0.06 of the drug was administered.

These various sensations, both subjective and objective, were absent after the administration of psikain, though occasionally the subjects expressed themselves as feeling tired. In two cases in which the drug was administered in the form of snuff the results were similar to those detailed above.

The results of the tests appear to the writers to be of the highest importance and, should they be definitely confirmed, are sufficient, in their minds, to warrant the State prohibition of all requisition and use of cocain in Germany, a desideratum which her psychologists have long expressly demanded. JAMES B. HORGAN.

The Pharmacological Significance of Psikain as a Local Anæsthetic. R. GOTTLEIB. (*Münch. Med. Wochenschrift*, No. 26, Jahr. 71.)

The practical results which may be deducted from Gottleib's experimental work with psikain demonstrate that by the introduction of this dextro-rotatory synthetic preparation of cocain we possess a drug which, while much inferior in its toxicity, is, in other ways, the compeer of the vegetable alkaloid; above all, its penetrative power is as great as that of cocain. The vessels are, however, rather dilated than contracted, a disadvantage which an adrenalin addition readily overcomes.

The very gradual absorption of the drug which takes place from the normal mucous membranes should completely eliminate the known

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toxic effects of cocain. Even in the event of rapid absorption from the bleeding mucosa the danger of toxic absorption should be considerably diminished. Generally, it will be found that it is possible to achieve the desired anæsthesia with a less concentrated solution of psikain than has, up to now, been possible with cocain. There should, moreover, be no reason to dread an increase in the concentration or in the amount of the drug used.

It is best to employ the acid tartrate salt of the dextro-rotatory pseudo-cocain (psikain) which crystallises readily and is soluble in water up to 20 per cent. It is sterilisable in water at 100° C. without disintegration and will bear a temperature of 110° C.

Clinical tests and animal experiments have shown that the theoretical advantages of psikain are a practical reality. By subcutaneous and intravenous injections in animals it may be shown that in the tardiness with which it is absorbed lies its real safety, and that this vanishes when the injection is made directly. Human tests can alone decide whether the use of the drug will eliminate the peculiar psychological results which have led to the abuse of the vegetable alkaloid. JAMES B. HORGAN.

Clinical Experience with Psikain as a Local Anæsthetic. K. BRODT and W. KÜMMEL. (*Münch. Med. Wochenschrift*, No. 26, Jahr. 71.)

The writers are so satisfied with the results obtained by the experimental use of psikain that they invariably use it in the carrying out of any complicated and extensive laryngeal manipulation. They find that, as an anæsthetic, it is about twice as powerful as cocain and much less toxic. They use a 20 per cent. solution of the acid tartrate salt which, under the trade name of psikain, has been made by the firm of E. Merck. Compared to an equivalent strength of the vegetable cocain the drug is effective in half the time. The writers bear ample testimony to the pharmacologist's contention that the drug is considerably less toxic than the vegetable alkaloid. They have used it repeatedly to infiltrate the nasal septum and the peritonsillar tissues without any untoward incident. Some of these patients had previously exhibited toxic symptoms with novocain infiltration. For the above reasons, and also because of its more rapid action and relative economy, the writers hold that, as a local anæsthetic, psikain has definitely superseded the vegetable alkaloid cocain. JAMES B. HORGAN.

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