# ABSTRACTS

## EAR

*The Auditory Apparatus and Aviation.* E. WODAK (*Lancet*, 1941, i, 8).

The author considers the following points as worth noting: (1) In examining candidates for flying the vestibular apparatus should be investigated by recent methods, and manifest or latent hypersensibility should be observed. (2) The findings should be checked every six months and a record kept of the excitability of the vestibular apparatus so that changes in the threshold can be recognized. (3) Further research in this field would be valuable.

MACLEOD YEARSLEY.

*Observations on 793 cases of Acute Purulent Otitis Media, with Chemotherapy in 396 cases.* WESLEY C. BOWERS, M.D. (Chicago). (*Jour. A.M.A.*, July 20th, 1940, CXV, 3.)

Of the total number of cases above noted, about half of whom were children, 599 recovered without operation. Of this number, 231 were selected because of their short duration, and because myringotomies could be performed in the hospital where the conditions of the case could be observed daily until the discharge ceased. The average duration of the discharge in 113 cases in which chemotherapy was received was nine days; in 118 cases in which it was not received the duration of the discharge was seventeen days. Thus it would seem that chemotherapy reduced the duration of the discharge by about 50 per cent. In 207 cases where chemotherapy was used, twelve required mastoid operation. In 180 treated without the drug, twenty-four came to mastoid operation. This is also a reduction of 50 per cent.

The bacteriological study of mastoiditis is not always satisfactory. Over 50 per cent. of the culture material showed streptococcus hæmolyticus, but the writer feels that more mastoiditis is caused by streptococci than is shown in this tabulation. It is justifiable to resort to chemotherapy in the presence of a severe clinical picture, regardless of the bacteriological data. On account of the tendency for the severer cases to relapse, the drug should be continued for a full week after the symptoms have disappeared. The preference is for sulfanilamide. During the first twenty-four hours, an amount is given slightly less than one grain per pound of body weight, up

to ninety pounds. During the first twenty-four-hour period the amount for the first two or three doses is doubled or trebled according to the severity of the infection. At first a daily blood count is taken but if no bad effects are observed the interval is lengthened to once in two days with an additional count one week after it has been discontinued. No permanent ill-effects have been observed though sometimes the cell count and hæmoglobin drop alarmingly. There has always been a quick response to discontinuance of the drug and to blood transfusions. Operations should be performed when the clinical picture suggests a focus. After uncomplicated mastoidectomy, it is better not to give the drug, but if complications arise, intensive chemotherapy is required.

ANGUS A. CAMPBELL.

*Hearing Aids—Tube or Carbon?* AUSTIN A. HAYDEN, M.D. (Chicago). (*Jour. A.M.A.*, July 20th, 1940, cxv, 3.)

Hearing aids may be made for large audiences or small groups. They all use line current and are generally stationary. Many small instruments are now designed for individual use and are of "vest pocket" size. During the past two years these wearable instruments have been built with small "peanut" radio tubes and crystal microphones. Amplifiers or boosters have been added to the transmitter. Both of these can peak amplification at the frequencies indicated by an audiogram, and mechanical filtering can level off the objectionable peaks inherent to carbon, thus producing selective amplification. Batteries have been enlarged to three dry cells with greatly prolonged life. The bone receiver introduced by Lieber carries sound vibrations around blocked oval windows. Otologists have learned from their audiograms that no two hearing losses are identical.

Tubes amplify beyond 6,000 cycles while carbons only amplify to about 3,000. The former can restore the high tones of both speech and music. Tubes give "straight line" amplification instead of the distorted amplification of carbons. Tubes are more complex in construction, more costly to buy, require more service, increase the danger of short circuits, and are more liable to sudden failure without warning.

Where the nerve function is good, both tube and carbon aids are satisfactory. Patients with severe perceptive loss above 3,000 cycles often experience discomfort, and frequently do not obtain satisfactory improvement in hearing. In fitting hearing aids the response curve of the instrument must be kept within the auditory area, otherwise discomfort occurs which becomes actual pain when the maximum intensity of the instrument is turned on.

ANGUS A. CAMPBELL.

# Sinuses

*The Treatment of Chronic Deafness and Tinnitus Aurium with Prostigmine.* KARL MUSSER HAUSER, M.D., EDWARD H. CAMPBELL, M.D., and HARRY SCHLUEDERBERG, M.D. (Philadelphia). (*Jour. A.M.A.*, September 21st, 1940, cxv, 12.)

The writers studied a series of fifty-six cases; no acute or subacute cases of tympanic or tubal inflammation were included. All cases were first studied with tuning forks and audiometers in an attempt to secure an accurate determination of the hearing loss and type of deafness.

During the treatment period 1 c.cm. of prostigmine methylsulphate 1 : 2,000 dilution was given hypodermically every third day. In addition 15 mg. of prostigmine bromide was given after meals for the first six weeks. Audiograms were taken every two or three weeks for the three months of treatment.

No patient was completely relieved of tinnitus, although seven patients felt some improvement had taken place.

The writers feel that the treatment of deafness and tinnitus with prostigmine is of little, if any, value.

ANGUS A. CAMPBELL.

## SINUSES

*Cranial and Intracranial Complications of Acute Frontal Sinusitis.* PAUL C. BUCY, M.D. (Chicago), and W. TRACY HAVERFIELD, M.D. (Jacksonville, Fla.). (*Jour. A.M.A.*, September 21st, 1940, cxv, 12.)

As a basis for this discussion the writers have reported in detail three cases of fulminating frontal sinusitis complicated by intracranial infections and also one case of osteomyelitis of the frontal bone with brain abscess, following trauma to a stye. All three cases of sinusitis occurred in adolescents and followed swimming.

Infection usually spreads from the sinus to the frontal bone and invades the brain by way of the venous system.

Endonasal drainage is quite inadequate and osteomyelitis of the skull should be treated by excision of all the infected bone as soon as pitting œdema suggests the diagnosis.

The writers have an unconquerable distaste for, and fear of, the mallet and chisel.

A brain abscess should be drained through an uninfected area of the skull, if possible, with due attention to infection of the meninges. Defects made by removing infected bone from the skull are usually repaired by spontaneous regeneration of bone.

The writers, being neuro-surgeons, make no mention of the after-treatment of the sinus.

The article is lengthy, freely illustrated and has a bibliography.

ANGUS A. CAMPBELL.

# Abstracts

## ŒSOPHAGUS

*Management of the Benign Stricture of the Œsophagus.* PORTER P. VINSON, M.D. (Richmond, Va.). (*Jour. A.M.A.*, December 9th, 1939, cxiii, 24.)

All strictures of the œsophagus should be considered benign until malignancy is proven. Difficulty in swallowing depends as much on reduction of elasticity in the wall as on the actual narrowing of the lumen.

When a solution of lye has been swallowed, a large amount of olive oil should be given by mouth. When acid has been swallowed, magnesium hydroxide is a more preferable antidote than sodium bicarbonate. Pain and swelling usually prevent swallowing for three or four days, and during this period fluids should be given intravenously. A size D twisted silk thread should be swallowed as soon as the initial reaction to the burn has subsided, and dilation may be performed later when necessary. Gastrostomy has a mortality rate of 10 per cent., and is seldom required if the silk thread is used in treatment. X-ray examinations of the stomach should be made of all patients who have swallowed large amounts of a corrosive substance, in order that strictures in the stomach or pylorus may not be overlooked.

Gradual dilation of benign strictures of the œsophagus will eventually result in the restoration of normal swallowing. A size 30 French may be used the first treatment and the size increased to a 45 French. Not more than one sound should be passed through the œsophagus at each treatment. The writer feels that when the lumen of the œsophagus has been obliterated, establishment of an opening through the scarred tissue is dangerous or impossible.

It is always advisable to pass dilators from above downward, even when a gastrostomy has been performed.

Œsophagoscopy is not necessary in the management of the majority of cases.

ANGUS A. CAMPBELL.

## MISCELLANEOUS

1. *A New Concept of the Toxæmia of Diphtheria.* B. A. R. O'MEARA.
2. *Treatment of Hypertoxic Diphtheria with Avid Serum.* C. J. MCSWEENEY. (*Lancet*, 1941, i, 203, 205 and 215.)

These papers are made the subject of a leading article. The usefulness of diphtheria antitoxin has been long established, but recently its supply does not appear to be as effective as hitherto. An attempt to improve the antitoxin by smaller units with less reaction appear not to have resulted in a better serum, but rather to have reduced its efficacy. The mysterious property of antitoxin called "avidity" is the subject of Messrs. O'Meara's and McSweeney's

papers. The latter speaks of one death in sixteen cases of diphtheria in the severe grades 3 and 4 when treated with a highly avid serum instead of the expected four fatalities. He stresses also the rarity of fall in blood pressure, the absence of albuminuria, and the rapid disappearance of membrane. Never having seen such effects before in hypertoxic cases, he found it difficult not to give the credit to avid serum. O'Meara suggests the hypothesis that the diphtheria bacillus produces in the body two factors—substance A, highly toxic to guineapigs and toxic to patients, and substance B, a second antigen which may also permit substance A to penetrate deeply. It is suggested that avid-antitoxin contains both anti-A and anti-B. The next step should be to test the avid-serum on a large number of hypertoxic cases where both A and B are at work. It appears that the serum used by McSweeney was a freak ; it was made by the ordinary methods of immunization and appeared in one horse by chance. O'Meara's hypothesis is stimulation and it will be interesting to see if it stands the test of time.

MACLEOD YEARSLEY.

*Surgical Treatment of Hemiatrophy of the Face.* V. H. KAZANJIAN, M.D., and SOMERS H. STURGIS, M.D. (Boston). (*Jour. A.M.A.*, August 3rd, 1940, cxv, 5.)

Progressive facial hemiatrophy is a self-limited condition, the. ætiology of which is obscure. It would seem to result from infection or trauma causing injury to some peripheral or central point of the sympathetic division of the vegetative nervous system. As a rule the major defect is the loss of subcutaneous fat. Medical treatment is not satisfactory, but plastic surgery is definitely worth while.

The most promising results have been obtained by using dermal grafts including fat and sometimes fascia in a block and taken from the lower part of the thigh. Various incisions are chosen to give convenient access and to leave inconspicuous scars. For the temporal region incision is made within the hairline ; for the cheek a vertical incision in front of the tragus ; for the jaw line and chin a curved incision behind the angle of the mandible ; for the corner of the mouth and lips an angular incision at the mucocutaneous margins of the lips ; and for the orbital region horizontal incisions parallel to the lid margins.

The tunnelling under the skin is done by blunt dissection with scissors, always following the superficial fascial planes. Care is taken to make each tunnel a separate compartment. Hæmostasis is extremely important to the survival of the transplants. From four to six operations are usually necessary.

The writer has treated six cases and reports two in detail.

ANGUS A. CAMPBELL.

# Abstracts

*Retruded Chins.* GORDON B. NEW, M.D., and JOHN B. ERICH, M.D. (Rochester, Minn.). (*Jour. A.M.A.*, July 20th, 1940, cxv, 3.)

The paper is chiefly concerned with those surgical measures of a purely cosmetic nature. No other facial deformity is more intimately related to malocclusion of the teeth. The conformation of the mandible is continually being altered during growth, so that the sooner it can be treated the more satisfactory will be the ultimate result. Common ætiological factors in this deformity are : inheritance ; abnormalities of the teeth ; mouth breathing ; rickets ; osteomyelitis ; temperomandibular ankylosis ; and unreduced fractures.

Retruding mandibles resulting primarily from arrested bony growth are seldom rectified by orthodontic methods alone. Before plastic surgery is attempted, a plaster impression should be made of the patient's face. Under intratracheal ether an incision is made in the submental region. With blunt forceps, a pocket is created over the symphysis. A cartilage graft is next cut to the desired contour and the implant is inserted over the symphysis. If more than one thickness of cartilage is required, two or three pieces may be sutured together and anchored to the jaw and the wound closed.

At a later operation, the adherent lower lip is separated along the labio-alveolar sulcus where a pocket is created and lined with skin for the reception of an intra-oral prosthetic appliance.

The article occupies ten columns.

ANGUS A. CAMPBELL.