

## ABSTRACTS

### EAR

*Otosclerosis Treated with Sex Hormones.* J. BERNSTIEN and LEON GILLIS. (*Lancet*, 1939, ii, 1368.)

The authors make this important contribution to the work done on true Otosclerosis. They conclude that there is some intimate connection between the gonadal internal secretions and otosclerosis. It may be that in otosclerosis there is an imbalance between male and female hormones. Such imbalance can be rectified by administration of the deficient hormone. Therefore there is now available a non-surgical treatment of otosclerosis. It is claimed by the authors that their investigation has proceeded for a sufficient length of time to show the efficacy or otherwise of the treatment. Since the course of the condition is usually one of progressive deterioration, any improvement is an advance. It is also claimed that out of 56 cases 31 were improved and 25 unimproved. All received injections of sex hormones, some homogenic, others heterogenic. In many cases the changes were rung. Much more work is necessary to find the best method of using sex hormones in otosclerosis, and it is suggested that this line of research may also elucidate the etiology of otosclerosis. No allusion is made to other recent research ; had this been done two lines might have been convergent and mutually helpful. The authors state also that they have administered sex hormones in presbycusis with encouraging results when the hormones used were heterogenic. MACLEOD YEARSLEY.

*Unilateral Hereditary Deafness.* ALEXANDER BROWNLIE SMITH. (*Lancet*, 1939, ii, 1172.)

The author describes an interesting example of this uncommon condition. A woman between 50 and 60 years old, had eight children between 18 and 5 years of age. She herself was stone deaf in one ear, and her father also, while four of her children were similarly affected. There was no evidence of consanguinity and no relation to lefthandedness. The investigator examined the mother and seven of the children. All those deaf were stone deaf when Bárány's noise box was used in the other (hearing) ear. No tuning fork could be heard by the affected ear either by air or bone conduction. Labyrinthine reactions were normal. Radiograms showed no apparent difference in bony structure on either side. The mother had one sister deaf in one ear, and her elder sister was in an institution for the deaf, having lost her hearing and become dumb after measles. This latter member of the family met in the

## Ear

institution her husband, deaf and dumb after a box on the ear. Of their union were two boys and one girl, the former normal, the latter deaf in one ear. This girl married and had two children, one deaf in one ear. Of the two boys with perfect hearing, the elder married and had three children, one boy being a deaf mute. This was the only case of congenital deaf-mutism the Author was able to trace in the family, interesting in the transmission of the defect through a healthy father. The mother's other sister, deaf in one ear, married and had two children both with perfect hearing. The author makes no attempt to discuss this family, which might be well worth study from the Mendelian aspect. MACLEOD YEARSLEY.

*The Vestibular System in Post-Encephalitic Parkinsonism.*  
LADISLAO KILENYI. (*Archivio Italiano di Otologia*, 1939, LI, 134.)

The author has investigated the vestibular reactions in twenty-six patients who were suffering from post-encephalitic parkinsonism.

He tested the caloric reactions by the Veits-Germàn method. This consists of injecting ten cubic centimetres of water at a temperature of two degrees centigrade. The water is directed against the postero-superior angle of the meatus close to the tympanic ring. The injection is carried out in five seconds with the head in the indifferent position for the horizontal semicircular canals, that is with an inclination thirty degrees forward. After injecting the water the head is left in that position for sixty seconds and is then moved backwards through nine degrees in two seconds. Normally nystagmus begins in two to three seconds and lasts for some sixty to ninety seconds.

In six cases unilateral inexcitability was present. In a further twelve cases there was a bilateral hypoexcitability and in twelve others there was monolateral hypoexcitability, in one of which there later developed inexcitability. Of four cases of normal excitability two developed unilateral hypoexcitability and two bilateral hypoexcitability. In no case was there a hyper-excitability. In 65 per cent. of the cases the latent period was prolonged.

In many of the cases the hypoexcitability and the extended latent period improved and the inexcitable labyrinth became active again, but this improvement did not appear to have any connection with any changes in the course of the disease itself or its symptoms.

F. C. ORMEROD.

*Histological Observations on Congenital Syphilis of the Ear.*  
CARNEVALE RICCI. (*Archivio Italiano di Otologia*, 1939, L., 522.) This paper consists of 114 pages with two coloured and 62 half-tone plates.

The author records histological investigation of the ears of eight

## Abstracts

infants with signs of congenital syphilis. They varied in age from the seventh month of foetal life to three months after birth at term. The temporal bones were removed and immersed in the fixing solution within twenty-four hours of death.

Inflammatory changes were found in the various cases in practically every part of the labyrinth. There was often a thickening of the periosteum of the labyrinthine capsule, with occasional gummatous foci. This was particularly apparent in the endosteum of the labyrinth.

There was in certain areas irregular ossification of the capsule with deposition of calcareous foci, and chronic osteomyelitis especially in the epitympanic region. Granulation tissue tends to form and compress the membranous labyrinth. In two of the specimens there was hæmorrhage into the cochlea. In others there was absorption of the lamina spirale, round-celled infiltration of the ligamentum spirale and atrophy of the organ of Corti. There were also degenerative changes in the spiral ganglion.

Thickening of the periosteum of the internal auditory meatus was apparent in some cases.

In five of the eight individuals there were gummatous changes in the mucosa of the middle ear. The ligaments of the ossicles were involved in two cases and there were changes of a degenerative nature in the ossicles themselves.

F. C. ORMEROD.

### NOSE

*The Temperature of the Nasal Mucosa.* P. CARLO MONTI and F. VENTURA-GREGORINI. (*Archivio Italiano di Otologia*, 1939, LI, 389.)

Many papers have been written on the function of the nasal passages, the direction of the currents of air, the action of the cilia and the functions of the accessory sinuses. A point of insistence has been the division of the nasal cavities into the active and inactive regions.

The present authors have investigated the temperature of different portions of the active area of the mucous membrane. They selected the sphenoidal recess, the middle meatus and the infundibulum. They employed a thermo-electric couple connected to a very sensitive galvanometer. They carried out the investigation on the nasal cavities of eighty-seven women who were between the ages of 16 and 36, and all of whom were in perfect health. They found that of the eighty-seven the mucous membrane was quite normal in thirty-seven, somewhat hypotrophic in thirty-two and hypertrophic in eighteen.

In the normal cases the temperature was 36 degrees centigrade in the sphenoidal recess and in the middle meatus, whilst in

## Nose

the infundibulum it was between 36·2 and 36·5 degrees. In the hypotrophic and hypertrophic cases the temperature was lowered about 0·3 degree in the sphenoidal recess and in the middle meatus, but in the infundibulum it was raised to the extent of about 0·1 degree.

It is notable that the temperature of the nasal mucosa is elevated above that of the skin, and it maintains a remarkable constancy for each area whether in winter or summer, with the single exception that the temperature in cases of hypertrophic mucous membrane is slightly raised in summer.

The authors suggest that further research might be carried out in cases of pathological conditions in the nose. F. C. ORMEROD.

*Nasal Lesions in Chromium Workers.* F. VENTURA-GREGORINI.  
(*Archivio Italiano di Otologia*, 1939, LI, 24.)

The author has examined 292 cases where there have been nasal lesions consequent upon work in the various processes of chromium plating and in the use of colouring materials containing chromium. The processes of chromium plating are the more dangerous, involving as they do, electrolysis of a solution of a salt of chromic acid. There occurs in this process a production of vapour of chromic acid and this acid has a selective and destructive effect on the nasal mucosa.

The first stage of the lesion is a hyperæmia with metaplasia of the mucosa, followed by a stage of ulceration of the soft tissues and finally a perforation of the cartilage. The site election for these changes is Valsalva's area of the septum.

Among the 292 cases observed by the author, ulceration of only the septum occurred in 35 per cent. and perforation of the cartilage in 21·5 per cent. Ulceration may heal and cicatrize but perforation remains patent and never decreases in size.

Workers who have been employed for many years in chromium technique show a deeper and more extensive lesion than those who have been so occupied for a short time. They do not, however, in spite of these lesions and of absorption of the metal into the system, show any signs of general intoxication.

The protective measures consist firstly of an adequate system of ventilation, whereby the vapour is drawn off immediately it emerges from the surface of the fluid in the vat. In addition an application of salicylic ointment either directly into the nose or on gauze may be used as an addition to the ventilation.

Blocking up of the nose is not satisfactory as it entails mouth breathing with the risk of inhalation of chromic acid vapour into the mouth and trachea.

The greatest care must also be taken that chromic acid or metallic chromium is not carried into the nose on unwashed hands.

F. C. ORMEROD.

## Abstracts

*The presence of Tubercle Bacilli in the Nasal Mucous Membrane.*

VIRGILIO SANGIOVANNI. (*Archivio Italiano di Otologia*, 1939, LI, 57.)

The author quotes many writers who have investigated the presence or absence of tubercle bacilli in the nasal cavities of patients who are suffering from tuberculosis of the lungs and also in healthy individuals. He has himself carried out a similar investigation. He used as his material eighty individuals thirty of whom suffered from pulmonary phthisis with tubercle bacilli in the sputum, thirty similar cases but without bacilli in the sputum and twenty healthy persons. None of these patients had any discoverable tuberculous lesion in the nose.

He made two series of investigations, the first consisted of collection and examination of specimens of the nasal mucous by means of a platinum loop and the second consisted of the removal of small portions of the mucous membrane from the inferior turbinals and the septum.

In the first group, with positive sputum, there were eight cases (26 per cent.) of tubercle bacilli in the mucus and three (10 per cent.) in the mucous membrane. There were also four cases with fuchsinophile granules.

In the second group, with negative sputum, there were two cases (6 per cent.) of the bacilli in mucus and four (13 per cent.) in the mucosa. There was only one with fuchsinophile granules.

In the third group of the healthy individuals there was one case only with bacilli in the mucus and none in the mucosa.

The method of infection of the nose raises points of interest. In the first group—with bacilli in the sputum, the author considers that the bacilli pass through the nasopharynx to the nose. In the second group with closed tuberculosis this method cannot be accepted. He does not, however, accept the theory that the infection can be lymphogenic or hæmogenic as there are never any deposits of tubercles in the deeper layers of the mucosa. He suggests that the bacilli gain entrance from the outside and that the tuberculous patient is less resistant to such infection than the healthy individual, thus explaining the difference in number between the cases in closed tuberculosis and the healthy individuals.

In the cases of open tuberculosis bacilli are found more often in the mucus than in the membrane as might be expected where there are bacilli in the sputum. In the case of closed tuberculosis the reverse is the case. Bacilli are known to be able to penetrate between the individual cells of healthy mucous membrane and this may happen with an infection from the outside, but the persistence of bacilli in the nasal mucus would hardly be expected unless there were continual supply from the outside or from the sputum.

F. C. ORMEROD.

# Nasopharynx

## NASOPHARYNX

*Malignant Tumours of the Nasopharynx.* LUCA CIURLO (*Bollettino delle Malattie dell'Orecchio, della Gola e del Naso*, 1939, lvii, 127.)

The author reports in this and preceding articles eleven cases of malignant disease of the nasopharynx.

Ten of the cases were carcinomata and one was a round-celled sarcoma. The carcinomata were all squamous celled.

There were seven males and four females. The youngest was 25 years of age and the eldest 75. The remaining nine patients were between 40 and 65.

Eight of the cases complained of nasal obstruction and one of epistaxis. Two experienced dysphagia and two deafness. Five cases suffered from neuralgia of the trigeminal nerve. Of these one had also paralysis of the rectus externus muscle, protrusion of the eyeball and paralysis of the hypoglossal nerve on the same side. Another had paralysis of the external rectus and diffuse headaches, whilst another had facial paræsthesia.

The involvement of the Eustachian tube explains the auditory symptoms. The lesions of the cranial nerves are explained by the penetration of the cranial fossa through the anterior lacerated foramen, the posterior lacerated foramen and the foramen rotundum.

The author states that any lesion in the nasopharynx causing nasal obstruction in an individual of the middle or later life must be suspected of malignancy and histological examination should be carried out.

F. C. ORMEROD.

## LARYNX

*Cancer and Tuberculosis of the Larynx.* GIORGIO ROSSI. (*L'Otorinolaringologia Italiana*, 1939, ix, 1.)

From a series of seventy cases of malignant disease of the larynx four are recorded in which cancer and a tuberculous infiltration were associated in the same larynx. They all occurred in males and the ages were 30, 41, 47, and 57—younger than the usual subject of carcinoma of the larynx. All four had pulmonary phthisis with tubercle bacilli in the sputum and the Wassermann reaction was negative in each case. In every case there was a considerable degree of infiltration, with œdema involving the epiglottis, vocal cords, ventricular bands and aryepiglottic folds. In each case there was also an ulcerated area with hypertrophied and solid looking edges.

Biopsy and histological examination showed that all four lesions consisted of extensive tuberculous infiltration with a carcinoma growing down into the infiltrated tissue. In one case the growth was a basal-celled carcinoma, the remaining four were squamous-celled. Tubercle bacilli were present in the microscopical section in

## Abstracts

only one of these cases and in this they were found only in the superficial parts where there was much necrosis.

The association of cancer of the larynx and tuberculosis may be divided into three groups.

1. Cancer of the larynx in a tuberculous subject without tuberculosis of the larynx.

2. Cancer developing in a larynx already invaded by tuberculosis .

3. Primary cancer of the larynx upon which is implanted a tuberculous infiltration.

The first two of these groups are fairly common, the third is extremely rare, and all the four cases described belonged to the second group.

The author considers that there is no antagonism between cancer and tuberculosis and that the presence of one has no effect of preventing the occurrence of the other.

F. C. ORMEROD.

### TRACHEA

*The Pathology of Tuberculosis of the Trachea.* G. BINI and I. VILLATA. (*L'Oto-rinolaringologia Italiana*, 1939, ix, 489.)

In this article which consists of seventy pages with many photographs and microphotographs, tuberculosis of the trachea is studied in its pathological aspect by two pathologists. As a result of their investigation the authors have come to the conclusion that tuberculosis as a primary condition is very rare in the trachea, but that such disease always follows phthisis of the lungs. They state that in pulmonary phthisis the commonest complication is tuberculosis of the larynx, followed by laryngo-tracheal and laryngo-tracheo-bronchial tuberculosis and finally tracheal and tracheo-bronchial tuberculosis. In many individuals dying of phthisis, the only lesion outside the lungs is an infiltration of the laryngo-tracheo-bronchial canal which may be catarrhal or tuberculous. In practically every such case the lymph nodes of the mediastinum are infected.

In tuberculosis of the trachea ulceration in the mucosa is the most common type seen, followed by a nodular infiltration and by caseation. All these forms may appear at one time in the same trachea.

Perichondritis and chondritis are merely complications of the ulcerated and infiltrated mucosa. Miliary tuberculosis is very rare in the trachea.

Tuberculosis may occur in any segment of the trachea with equal frequency but it shows a predilection for the posterior membranous area rather than for the cartilaginous portions. There is as a rule very little formation of fibrous tissue or scarring after healing.

## Miscellaneous

The path of infection is mainly direct from the sputum, but occasionally by the extension from the paratracheal glands. Only rarely is the infection transmitted by the blood or lymph stream.

Degeneration is common in the perichondrium or cartilage of the rings, but hypertrophic or neoformative changes are rare. Such changes may, however, occur in association with catarrhal lesions in the trachea.

F. C. ORMEROD.

### MISCELLANEOUS

*Changes in the Thyroid Gland in patients suffering from Malignant Diseases of the Larynx.* PAOLO GRITTI. (*Archivi Italiana di Laringologia*, 1939, lv, 49.)

The effects on the endocrine system of malignant disease elsewhere in the body has been extensively studied and discussed. The author's contribution consists of an analysis of the effects on the thyroid gland in six cases of malignant disease of the larynx. In each case he was able to obtain fresh portions of the gland during life and to subject them immediately to preparation for histological examination. This was done during the operation either of laryngectomy or of tracheotomy.

He found that in two cases the gland was normal, in two there was a tendency to fibrous change and in two more the fibrosis was well marked.

In each of the two cases with normal thyroids and of the two cases with slight fibrosis a tracheotomy was performed for marked dyspnoea. Severe dyspnoea was also present in one of the cases with marked fibrosis but in the other there was no respiratory change. The more marked fibrosis occurred in somewhat younger patients, the slight fibrosis in rather older ones, and the two cases with normal thyroid glands happened to be about the same age as the two with slight fibrosis.

The author considers that the blood supply to the thyroid is altered by the laryngeal tumour and that this gives rise to fibrotic changes. He demonstrates the intimate connection between the arterial and venous supply of the larynx and thyroid and he claims that there is also a blood connection between the two organs through the aponeurotic tissue of the cervical fascia which connects them. He suspects that there may be some toxic products of the tumours which affect the gland.

F. C. ORMEROD.

*The effects of plugging the nose on the alveolar carbon dioxide.* T. RODOLFO-MASERA. (*Bollettino delle Malattie dell'Orecchio, del Gola e del Naso*, 1939, lvii, 405.)

The author has carried out experiments on ten individuals by



## Abstracts

occluding their nasal passages for a number of days and regularly estimating the percentage of carbon-dioxide in their alveolar air. The cases were in three groups, those who had normally patent nasal passages, those with a moderate degree of obstruction and those with a severe obstruction.

He found that the percentage of carbon-dioxide increased after plugging, from 5.5 per cent. to from 6.3—6.5 per cent. The percentage varied from one examination to another and the author considers that this is due to instability of the acid-base equilibrium.

In the later stages of the experiment the amount of expired carbon-dioxide becomes steadier and this is explained by the more complete acid-base equilibrium.

It has been noted that there was no appreciable difference between the results in the individuals with a perfectly pervious nose and those with the most advanced degrees of obstruction before the experiment. The author explains that the changes in the alveolar air are only brought about by a sudden and total occlusion of the nose and that the gradual onset of a pathological obstruction does not produce these effects.

F. C. ORMEROD.

*Cardiac Function in the Tracheotomised.* RENATO MENNITO-IPPOLITO.  
(*Archivio Italiani di Laringologia.* 1938, lv, 5.)

Investigation has been made into the cardiac behaviour of eleven children who had worn a tracheotomy tube for periods varying from seven days to four years. The latter had worn his tube from the age of seven to that of eleven. Of the remaining children three were eight years old, one was seven, four were six and three were five. All the children had undergone tracheotomy on account of laryngeal diphtheria. It was felt that the prolonged subjection to respiration through an abnormal airway might have some effect on the heart and on the chest.

In eight cases there was nothing of importance to record, but in the remaining three there was an accentuation of the second sound over the pulmonary artery in one, an impure first sound over the aorta in the second and a slight hæmic soufflé in the third. A fourth child had shown signs of fibrillation of the auricle but this was not confirmed by electro-cardiography.

There were no changes in the chest as examined by radiography—certainly no thorax was larger than would be expected in a normal child of the same age.

F. C. ORMEROD.