

RECENT ADVANCES IN OTO-LARYNGOLOGY

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The most striking advances in Oto-Laryngology in the past year have been in the use and administration of Penicillin and the application of radium to the naso-pharynx.

Aerotitis is due to the inability to ventilate the middle ear. Otagia is the first symptom, and may be so severe as to cause unconsciousness, shock, nausea, vomiting and vertigo. Labyrinthine damage seems inevitable with such a violent accident. After pain subsides, there remains a loss of hearing with stuffiness or pressure deep in the canal (1).

Appearance of the drum parallels the symptoms. The membrane tympani is usually hemorrhagic and retracted. Hemorrhage may be in the drum or in the middle ear. The hemorrhage changes color with time, becoming a deep red and later a dark blue, while the ossicles stand out white against this background. It takes about three weeks to recover.

Hearing loss is a prominent symptom. There is no characteristic curve but the type of deafness is conductive with a negative Rinnee and Weber is lateralized to the involved ear.

Serous otitis may follow, fluid accumulates under negative pressure and it may shift with the change of position of the head. This changes the hearing as it leaves the vital structures.

The hyperplastic lymphoid tissue in the naso-pharynx is the most common cause of eustachian tube malfunction. Lymphoid tissue regresses after radium therapy about the eustachian tube. It removes not only the mechanical factor which predisposes to aerotitis, but also tissue that harbors pathogenic organisms that precipitate attacks of naso-pharyngitis. This lymphoid tissue about the eustachian tube is the most common cause of conductive deafness in children and predisposes to repeated attacks of otitis media. Of 6,881 (2) men, 74% were benefited and 89% showed a marked decrease in adnoid tissue, definite improvement in hearing, and in the ability to ventilate the middle ear.

Dr. Lempert (3) offers a new theory and suggests that tinnitus aurium in many cases and under certain conditions may be due to a tonus impulsé transmitted to the inner ear by disease of the sympathetic ganglion cells of the tympanic plexus. Based on this new theory, Tympano-Sympathectomy is recommended for the relief of tinnitus aurium.

A surgical technic by which Tympano-Sympathectomy may be performed without disturbing the hearing has been successfully employed.

Not all cases of tinnitus are embraced by this theory, and there is no definite way as yet to select the cases which apply. Nevertheless, of fifteen patients on which Tympano-Sympathectomy was performed, ten are now completely free from tinnitus. Patients selected had severe, persistent tinnitus for one year duration or more, and were unable to concentrate because of its intensity.

Dr. Lempert (4) reports over 1,000 patients with clinical otosclerosis that have been treated by fenestration of the labyrinth in the last seven years. In the last 700, the fenestra nov-ovalis was created in the surgical dome of the vestibule. Practical, serviceable hearing for all social and economical purposes was restored and continuously maintained in about 50% of the cases.

Closure of the newly created fenestra by new bone formation, and damage to the organ of Corti as a result of serous labyrinthitis, were found to be the two major obstacles. Bone formation may be stopped by cartilage stopple.

Day (5) reports approximately 80% of patients get serviceable hearing if one selects patients under forty-five years of age and with bone conduction of not less than 15 decibels in speech range. He does not use cartilage stopple.

Shambaugh (6) has an average of 25.7 decibels improvement in 321 cases operated, using the nov-ovalis technic of Lempert modified by constant irrigation of the field and the use of the binocular dissecting microscope while the fenestra is being made.

If a mastoid is operated, closed and a ureteral catheter placed in the mastoid, then irrigated with 10,000 units of Penicillin of 2 c.c. volume every eight hours for four days, it will be completely cured as reported in eighteen of the twenty-three patients tried (7).

External otitis is often a difficult disease to treat. This is due to fungus infection, humidity, temperature and secondary infection by different organisms. Thymol 1% in Cresatin will control 80% of the fungus cases, and the cellulitis of the canal will respond to Chemotherapy if gram positive organisms are present. Some of the foulest ears are sulfa resistant and are infected with *B. pyocyaneus*, which will respond in 48 hours upon packing with 5% Sodium Thiosulfate (8), followed by a 2% Acetic Acid pack for five minutes. This must be continued for several days to prevent recurrence even though the canal looks normal.

Penicillin solution of 250 units per c.c. has no effect on the ciliary beat, which normally lasts from 25-28 hours. Using 500 units per c.c., the ciliary beat was reduced to 15-19 hours; 5,000 units per c.c., the beat was reduced to 3-6 hours. Therefore, a weak solution of Penicillin has no damaging effect on the cilia or epithelium of respiratory mucosa (9).

Two c.c. of Penicillin (10-20,000 units) with 1 c.c. of 1% Novacaine injected (10) into an early peri-tonsillar swelling will give marked relief from pain in 2-3 minutes and the patient can swallow without discomfort.

Penicillin 1-300,000 units, single dose per day, in peanut oil and .02 gm. Novacaine has proven very satisfactory as an office procedure to combat infections caused by Penicillin sensitive organisms. This leaves the patient ambulatory, quick recovery and no side reactions except delayed sore arm in some patients. Otitis media, serous otitis, acute sinusitis, septic throat and vincent's, all respond faster than those cases in which sulfa was used.

J. R. Richman (11) reported a new treatment for esophageal obstruction due to meat impaction. There were 17 cases treated by oral ingestion of a proteolytic enzyme, papain powder. Twelve were relieved in an hour and a half, some of these within thirty minutes. The papain digests thirty-five times its weight of meat. I have used this four times in the last three months in patients who were very poor risks for esophagoscopy, and all were completely relieved of the obstruction within half an hour.

In bilateral adductor paralysis following injury to both recurrent nerves, the King or Kelly operations to abduct the cords have been indicated. Murtagh (12) shows us that by cutting the external branch of the superior laryngeal nerve, which supplies the crico-thyroid muscle, the cords shift permanently to a position of abduction.

Inoperable carcinoma of the larynx may respond to X-ray therapy by Coutard method, using 4-6000 Units, after complete removal of the thyroid cartilages. Arbuckle reported 18 cases recently. I have 2 cases with complete regression of the neoplastic tissue, but only two years after treatment. This offers new hope for the advanced cases of carcinoma of the larynx.

A large proportion of patients seen in the office practice of otolaryngology suffer from chronic nasal allergy, frequently complicated by a superimposed infection. The best therapeutic results can be obtained when treated simultaneously. History, stained nasal smears, skin tests, elimination diets, and therapeutic tests,

aid in the diagnosis of nasal allergy. Sensitivity to house dust is more frequently encountered than generally recognized and the therapeutic response to it, is very satisfactory in a great majority of cases.

Aerosinusitis is an acute or chronic inflammation of one or more nasal accessory sinuses, produced by barometric pressure difference between air inside the sinus and that of the surrounding atmosphere, and it must be differentiated from purulent and catarrhal sinusitis. History of a recent flight is often a deciding factor but X-ray, disclosing opacity or thickened membrane in absence of previous sinusitis, sudden pain over the sinus, epistaxis, during or after exposure to barotrauma, and no previous rhinitis, is extremely suggestive. Aerosinusitis usually responds to vaso-constriction, but polyps or other obstruction must be eliminated, and at times Caldwell-Luc is necessary.

In the management of chronic sinus diseases, simple measures, if properly applied, suffice in 97% of the cases. Attention is concentrated on the drainage area of involved sinuses and all efforts are directed toward restoration of function of the ostia. In most cases of few months duration, the opening itself is not at fault, but rather, the trouble lies in relation of adjacent tissue to the opening. The defects may be anatomic or pathologic. Most common is a blocked middle meatus by an impinging middle turbinate wedged against the lateral wall, septal deviation, spurs, cellular turbinate, etc. In pathological groups, edema from allergy is most prominent in which case the mucus membrane may swell 50 times its normal thickness in a few hours and easily block the ostium. Swelling may be a Vasomotor reaction to an endocrine imbalance, G.I. disturbance, or some other systemic condition.

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