

ABSTRACTS

EAR

Penicillin Ear Drops in the Treatment of Suppurative Otitis Media. LT.-COL.

WILLIAM J. LOEB. *Archives of Otolaryngology*, 1946, xliii, 6, 586-592.

A solution of a penicillin salt prepared in isotonic solution of sodium chloride with a strength of 1,000 Oxford units per c.c. was used. The penicillin drops were administered three times daily.

A comparison is made between the average time required to cure infections of the middle-ear cleft with boric acid-alcohol drops and that required to cure such infections with penicillin drops.

Conclusions: Penicillin drops, 1,000 Oxford units per c.c., offer a safe, rapid and effective treatment for acute suppurative otitis media. In this series they were far more effective than boric acid-alcohol drops. Penicillin drops offer a treatment which is free from the potential dangers of sulphonamide medication. They are essentially ineffective in treating old chronic suppuration of the ear. However, when used in combination with boric acid-alcohol drops, beneficial results may be obtained. Penicillin drops should be used with caution in the presence of external otitis.

R. B. LUMSDEN.

Surgical Treatment of Otosclerosis: A Preliminary Report on an improved Fenestration Technic. GEORGE E. SHAMBAUGH, JR. and ARTHUR L. JUERS (Chicago). *Archives of Otolaryngology*, 1946, xliii, 6, 549-567.

Experimental studies showed that in the monkey, osteogenesis tending to close the fistula is most active during the first 3 post-operative months and, as a rule, has practically ceased at the fistula about 4 months after the fenestration operation.

It has been found that the fistula test cannot be used to judge the functional patency of the fistula to sound. The conclusion was reached that osteogenesis tending to close the fistula in the human patient usually ceases by the end of the first post-operative year.

The new technic embodies several major and a number of minor changes. The minor changes decrease the number of post-operative treatments and increase the comfort and safety of the operation for the patient. The major changes are believed to improve the permanent hearing results of the operation and fall into 3 categories: features to decrease the frequency of bony closure, to enhance the average decibel gain and to lessen post-operative serous labyrinthitis.

The incidence of failure due to bony closure has been reduced to less than 5 per cent. in patients tested after 2 years. The adoption of features to improve mobility of the tympano-meatal skin flap has increased the average number of decibels gained from 28 to 30. The technic for preventing serous labyrinthitis

Abstracts

has resulted in a striking improvement in early hearing results and may be expected to improve the permanent hearing results.

There are 11 figures and 3 tables.

R. B. LUMSDEN.

The Conservative Radical mastoid operation by the method of Vojachek and the post-operative insufflation of sulphonamide. A. I. PISKUN. *Bulletin of Otorhinolaryngology* (In Russian), 1946, viii, 1, 24-28.

Piskun discusses the conservative operation on the middle ear and mastoid antrum as carried out by Vojachek by the post-aural route, and gives a series of 40 cases. 72 per cent. of cases were 30 years old or under. The disease had been present for 5 years in 35 per cent., 5-10 years in 18 per cent., and over 10 years in 47 per cent. Simple epitympanitis was present in 68 per cent., meso-epitympanitis, complicated by granulations and polypi in 27 per cent. and scar contracture of the external meatus in 5 per cent. Of the 27 cases of simple epitympanitis, 8 (27 per cent.) had a defect of the lateral attic wall and 19 (70 per cent.) marginal perforations with caries of the lateral attic wall.

At operation in 3 cases the dura mater of the middle cranial fossa was exposed. The outer dressing was changed on the second day when the patient got up for the first time. The meatal pack was removed at the same time as the stitches on the 6th or 7th day. The post aural wound healed by first intention in 80 per cent. of cases. Sulphonamide powder was insufflated into the cavities in the post-operative period.

COMPLICATIONS

- (1) 1 case of transient labyrinthine irritation during operation.
- (2) 1 case had an attack of labyrinthine irritation on the second day.
- (3) 2 cases of deep cervical lymphadenitis, one of which required incision.
- (4) 1 case of facial paresis appearing on the third day, but resolving by the 12th day following operation.

OPERATIVE RESULTS ON DISCHARGE FROM HOSPITAL

Complete epithelization of cavity	4 cases 10 per cent.
Epithelization with islets of granulations	17 cases 42·5 per cent.
Flat granulations with slight discharge	12 cases 30 per cent.
No epithelization, granulations present and copious discharge	7 cases 17·5 per cent.

STEPHEN SUGGIT.

The problem of Radical Mastoid Operations on the Ear. S. N. ARONOV. *Bulletin of Otorhinolaryngology* (In Russian), 1946, viii, 1, 18-24.

In the period 1935-1940, 169 Radical Mastoid operations were performed, representing 33 per cent. of all cases of chronic middle-ear disease. From 1929 onwards both the post-aural and endaural routes were used with a preference for the latter in later years. In the operations performed by the post-aural route the minimum amount of bone was removed, sufficient only to secure access to the middle ear. The author compares in tabular form a series of 120 operations by the endaural method with a series of 150 radical mastoids by the post-aural approach.

Ear

FINDINGS AT OPERATION

	No. of cases.	Cholesteatoma.		Granulations.		Caries of ossicles.		Caries of ossicles and granulations.	
		No. of cases.	%	No. of cases.	%	No. of cases.	%	No. of cases.	%
Endaural	120	45	37.5	28	23.3	22	18.7	25	20.5
Post-aural	150	74*	49.4	23	15.6	7	4.6	46	30.4

OPERATION DETAILS

	No. of cases.	Exposure of dura mater.		Transient facial paresis.		Persistent facial paresis.		Vertigo at operation.		Removal of stapes.		Sloughing of flap.		Fistula sign.	
		No. of cases.	%	No. of cases.	%	No. of cases.	%	No. of cases.	%	No. of cases.	%	No. of cases.	%	No. of cases.	%
Endaural	120	10	8.3	6	5.0	2	1.7	1	0.8	1	0.8	1	0.8	—	—
Post-aural	150	11	5†	8	5.3	1	0.65	2	1.3	1	0.65	—	—	1	0.65

* Includes one case of extradural abscess.

† 11, exposure of the dura mater; 5, exposure of the bulb of the lateral sinus.

CONDITION ON HEARING AFTER RADICAL OPERATION

	No. of cases.	% unchanged.	% improved.	% worse hearing.
Endaural	120	71.6	5.0	23.4
Post-aural	150	88.6	4.7	6.7

The results in this last table are compared with those of other authors. Aronov points out that success depends on obtaining complete epithelization of the cavity.

POST-OPERATIVE DATA

	Complete Epithelization.		Partial Epithelization.		Granulations in Cavity.		Narrowing of Ext. Aud. meatus.		Facial Paresis.	Sequelae of Perichondritis.		Unhealed post-aural wound.		Fistula Sign.		Died.		
	No. of cases.	%	No. of cases.	%	No. of cases.	%	No. of cases.	%		No. of cases.	%	No. of cases.	%	No. of cases.	%	No. of cases.	%	
Endaural	14	11.7	40	33.4	59	49	4	3.3	2	1.7	1	0.9	—	—	—	—	—	—
Post-aural	14	9.3	77	51.2	43	28.6	9	6.0	1	0.8	1	0.8	4	2.5	1	0.8	1	0.8

At a period 3-4 weeks after operation, 49 per cent. cases operated on by the endaural method had granulating cavities (failure to epithelize completely), and 28.6 per cent. of those operated on by the post-aural method had

Abstracts

granulating cavities. In subsequent follow up a further 21 cases by the endaural method showed cavities completely lined by epithelium making a total of 30 per cent.

In the most recent period the mastoid operation has been carried out by a post-aural incision close up to the fold of the pinna. Local anæsthesia is used. The soft tissues of the meatus are separated from the posterior bony meatal wall down to the tympanic ring, exposing the perforation. If the perforation is large and a good view obtained a small probe curette is passed through the perforation into the attic and diseased tissue removed. If exposure is limited the outer wall of the attic and antrum is removed with a small gouge and the facial ridge lowered. This technique was first proposed by Vojachek. The middle ear is left alone, or the remains of the tympanic membrane and ossicles are removed with curettage of the opening of the Eustachian tube, according to the findings at operation.

Since 1944, 30 cases have been operated on by this method. The post-aural wound healed by first intention in all cases.

STEPHEN SUGGIT.

TONSIL

Late Secondary Tonsillar Hæmorrhage: II Studies of Ascorbic Acid. HARRY NEIVERT (New York), LEO A. PIRK (Nutley, N.J.) and RECHA ENGELBERG (New York). *Archives of Otolaryngology*, 1946, xliii, 6, 568-577.

Two comparable series of patients undergoing tonsillectomy were studied. The plasma levels of vitamin C of the control series were determined before and after operation. The pre-operative concentration of ascorbic acid was subnormal in more than half of the patients and there was a decrease in the vitamin C content post-operatively in the majority of those whose original values had been normal. Most of the hæmorrhages occurred in the patients with vitamin C deficiency. The patients of the second series were saturated with ascorbic acid, and in these the incidence of hæmorrhage was significantly reduced.

The patients of both series received liberal amounts of acetylsalicylic acid. Since hypoprothrombinæmia caused by salicylate has been shown to be one of the most important etiologic factors of secondary tonsillar bleeding, the beneficial results observed with ascorbic acid were thought to be indicative of a protective effect exerted by this vitamin against drug-induced prothrombinæmia. Experiments carried out in this direction bore out this suspicion. Evidence is presented that vitamin C prevents salicylate-induced hypoprothrombinæmia. This effect is believed to be due to the detoxifying action of ascorbic acid.

R. B. LUMSDEN.

LARYNX

Laryngeal Tuberculosis. OSCAR AUERBACH (Staten Island, N.Y.). *Archives of Otolaryngology*, 1946, xliv, 2, 191-201.

Laryngeal tuberculosis was present in 304 (37·5 per cent.) cases of tuberculosis which came to autopsy. In all but 2 instances it developed as a direct

Miscellaneous

infection from positive sputum in chronic pulmonary tuberculosis. The age, sex and race distributions in this series parallel those in chronic pulmonary tuberculosis.

Tuberculous foci, with and without central zones of caseation form in the walls of the larynx as a result of tubercle bacilli which enter through the ducts of the mucous glands. Ulceration develops either through pressure atrophy of the mucous membrane by the tuberculous foci or by caseous necrosis of the overlying epithelium as the tuberculous areas enlarge. The further progression of the ulcerative process is similar to that in other parts of the body. Ulcers were found most frequently on the true vocal cords (47.1 per cent.).

Healing may occur in any stage of anatomic development, usually in cases in which underlying chronic pulmonary tuberculosis undergoes anatomic healing. In some instances healing and progression keep pace in the same larynx, resulting in a pronounced thickening of the wall, nodular protrusions into the lumen and narrowing of the canal.

R. B. LUMSDEN.

MISCELLANEOUS

Effect of Zephiran chloride, Tyrothricin, Penicillin and Streptomycin on Ciliary Action. G. GREENWOOD, R. E. PITTENGER, G. A. CONSTANT and A. C. IVY (Chicago). *Archives of Otolaryngology*, 1946, xliii, 6, 623-628.

Author's conclusions: (i) Aqueous solutions of zephiran chloride (1:1,000 and 1:2,000) and tyrothricin (1:2,000 and 1:5,000) were deleterious to the ciliary activity of the nasal mucosa of normal healthy rabbits. (ii) Plain distilled water stopped all ciliary activity of such membranes when it was applied. (iii) Isotonic solution of sodium chloride proved not to have any appreciable deleterious effect on the ciliary action of nasal mucosa and of tracheal mucosa taken from normal healthy rabbits. (iv) Zephiran chloride (1:1,000 and 1:2,000) in isotonic solution of sodium chloride had no inhibitory effect on the ciliary action of the nasal mucosa of healthy rabbits *v.* penicillin in concentrations of 200 units and 500 units per c.c. of isotonic solution of sodium chloride had no apparent deleterious effect on the ciliary action of the nasal mucosa taken from normal healthy rabbits. (vi) Streptomycin in concentrations of 100, 300, 500 and 1,000 units per c.c. of isotonic solutions of sodium chloride had no inhibitory or deleterious effect on the ciliary action of either nasal mucosa or tracheal ciliated epithelium of normal healthy rabbits.

R. B. LUMSDEN.

Evaluation of Benadryl as a Therapeutic Agent for Vasomotor and Allergic Rhinitis. E. A. THACKER (Urbana, Ill.). *Archives of Otolaryngology*, 1946, xliii, 6, 597-604.

Research by Loew and his associates with synthetic benzhydyl alkamine ethers revealed that beta dimethylaminoethyl benzhydyl ether hydrochloride, designated Benadryl, was the most effective antihistamine preparation studied in alleviating anaphylactic and histamine shock in animals.

In the author's case, the daily intake of Benadryl varied from 150 to 400 mg. given in 50 to 100 mg. doses. The frequency of administration ranged

Abstracts

from 3 times daily to every 3 hours. The most common side-effect noted was drowsiness.

The drug was given to 72 patients whose complaints embraced vasomotor rhinitis, definite perennial allergic rhinitis and nasal allergy associated with asthma. Marked improvement or complete relief from nasal congestion and its associated symptoms occurred in 50 per cent. of the group with vasomotor rhinitis and in 42·8 per cent. of the group with perennial allergic rhinitis. Only 4 of the 8 patients with associated asthma were definitely improved, with none of these obtaining complete subsidence of the thoracic symptoms and physical findings. One patient with pseudo Ménière's syndrome obtained complete relief; another was not helped. Of the whole group, 25 per cent. obtained complete relief while taking Benadryl, and 20·8 per cent. were definitely improved. Only very slight or no improvement was recorded for 54·1 per cent.

Benadryl may be added to the list of drugs to be used in controlling temporarily vasomotor and perennial allergic rhinitis.

R. B. LUMSDEN.