

epithelia의 degeneration 및 Ganglion cell의 degeneration을 이끈다.

63歲 女子의 兩側穿孔性 慢性 中耳炎 患者가 家庭에 서 中耳腔內에 Terramycin粉末 한 Capsule을 兩耳에 나누어 넣고, 甚한 Sensorineural Deafness를 招來, 6個月이 지난 現在, 病變의 好轉을 보지 못하고 있는 一 症例를 文獻的考察과 함께 報告하는바이다.

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정상한국인의 청력검사치에 관한 연구

연세의대

오혜경 · 서장수 · 이근해 · 김희남 · 김영명
권영화 · 서옥기

현재 이과영역에서 청각기능을 진단하기 위해 순음 및 언어청각검사와 Impedance청각검사등을 이용한 여러가지 특수청각검사법이 사용되고 있으나 우리나라에서는 이에 대한 정상한국인 기준치의 연구가 몇몇 학자에 의해서만 산발적으로 보고되어 왔다.

금번 본 고실에서는 정상 청각기능을 가진 의과대 남학생 100명을 대상으로 일련의 특수청각검사를 실시하여 다음과 같은 기준치를 얻었기에 보고하는 바이다.

1) 언어판별치(PB score)는 전부 90%이상이었고 95%의 예가 우측귀에서는 94%이상이었고 좌측귀에서는 92%이상이었다.

2) M.C.L.(most comfortable level)은 우측귀가 45 ± 15.4dB이었고 좌측귀는 46 ± 17.9dB이었으며 그 범위는 우측귀가 11 ± 12.1dB, 좌측귀는 13 ± 13.5dB이었다.

3) U.C.L. (uncomfortable level)은 106dB이상이었던 예가 우측귀에서 43%, 좌측귀에서 45%였고 나머지 예에서는 95%의 예가 우측, 좌측 귀에서 모두 96dB이상이다.

4) SISI(short increment sensitivity index)는 95%의 예가 우측귀에서는 1,000Hz와 4,000Hz에서 각각 45%, 45%이내였고 좌측귀에서는 각각 55%, 70%이내였다.

5) Tone decay는 95%의 예가 양측귀 모두 2,000 Hz와 4,000Hz에서 10dB이내였다.

6) SRT-PTA(speech reception threshold minus pure tone average)는 우측귀가 -1 ± 9.2dB이었고 좌측귀는 0 ± 10.0dB이었다.

7) UCL-SRT(uncomfortable level minus speech reception threshold)는 UCL이 106dB이상이었던 예

를 제외한 57례, 55례에서 우측귀가 98 ± 11.7dB이었고 좌측귀가 99 ± 13.5dB이었다.

8) Impedance청각검사

ㄱ) Tympanogram은 1례(좌측귀, B형)를 제외한 모든 예에서 A형이었고 peak level은 우측귀가 22.8 ± 32.94mmH₂O였고 좌측귀는 23.9 ± 29.81mmH₂O이었다.

ㄴ) Compliance는 우측귀가 0.6 ± 0.54cc였고 좌측귀는 0.6 ± 0.53cc이었다.

ㄷ) 등골근반사(stapedial reflex)

① 반대측에 자극음을 주었을 때 반사는 500Hz, 1,000Hz, 2,000Hz 및 4,000Hz에서 우측귀가 각각 84 ± 17.7dB, 87 ± 14.4dB, 79 ± 13.7dB, 87 ± 18.6dB에서 나타났고 좌측귀는 각각 84 ± 15.9dB, 88 ± 13.9dB, 84 ± 16.8dB, 87 ± 21.3dB에서 나타났다. 그리고 반사가 보이지 않은 예는 500Hz, 1,000Hz, 2,000Hz 및 4,000Hz에서 우측귀가 각각 1례, 1례, 1례, 3례였고 좌측귀는 각각 2례, 2례, 2례, 5례였다.

② 동측에 자극음을 주었을 때 반사는 1,000Hz, 2,000Hz에서 우측귀가 각각 89 ± 16.3dB, 82 ± 15.9dB에서 나타났고 좌측귀는 각각 89 ± 18.0dB, 83 ± 18.9dB에서 나타났다.

그리고 반사가 보이지 않은 예는 1,000Hz에서만 우측귀가 1례, 좌측귀가 2례였다.

9) Impedance 청각검사를 이용한 구세관 기능은 -250mmH₂O와 +250mmH₂O를 준 때 우측귀에서는 각각 10례, 11례에서 반응이 없었으며 그 반응 범위는 14 ± 26.9mmH₂O, 8 ± 21.9mmH₂O였고 좌측귀에서는 각각 5례, 6례에서 반응이 없었으며 그 반응범위는 각각 2 ± 22.5mmH₂O, 9 ± 17.3mmH₂O였다.

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어음청취역치와 순음청력검사의 상관관계에 관한 연구

서울의대

이철희 · 선우 대환 · 민양기 · 백만기

어음청취역치는 어음명료도검사를 위한 기초검사이며 순음청력검사의 신뢰도를 검증하는데도 이용된다.

순음청력검사와 어음청취역치의 연관성을 보기위해 본원에 내원한 건음성난청환자 50명(33명), 정상인 30명(40명)에 대해 Grason-Stadler 1702 Audiometer를 사용하여 순음청력검사와 어음청취역치를 측정하여 다음과 같은 결과를 얻었다.

questioned and the safety of using the drugs intratympanically has been challenged.

Many drugs not normally ototoxic when given systemically become ototoxic when administered via the middle ear.

According to Stupp and others(1973) among neomycin, polymyxin-G, gentamycin, erythromycin, tetracycline and penicillin, only penicillin was found to be free of toxic effects.

The ototoxic antibiotics probably reach the inner ear by permeating the round window membrane, into the perilymph and then through Reissner's membrane to the endolymph. The main pathological changes are degeneration of stria vascularis, degeneration of sensory epithelia and degeneration of ganglion cells.

We report with reference, a case of profound sensorineural deafness following the application of Terramycin powder intratympanically, in a 63 year old woman.

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A Study for the Norms of Audiometric Tests in Koreans

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Currently in the otologic field, there are various methods of special audiometric examinations, such as, tone decay, SISI, and impedance audiometry and only a few studies has been done in these fields sporadically in Korea.

The purpose of this paper is to establish norms of various special audiometric tests, so we have performed the special audiomet-

ric tests on 100 male medical students in good physical condition and the follow results were obtained.

1. All cases showed over 90% of PB scores. The mean and its 2 S.D. were $98 \pm 4.9\%$ in the right ear and $97 \pm 5.6\%$ in the left ear.

2. The mean and its 2 S.D. of MCL(most comfortable level) were 45 ± 15.4 dB in the right ear and 46 ± 17.9 dB in the left ear, and its range was 12 ± 12.2 dB in the right ear and 13 ± 12.6 dB in the left ear.

3. The mean and its 2 S.D. of UCL (uncomfortable level) were 102 ± 7.9 dB in the right ear and 102 ± 7.9 dB in the left ear and about an half in cases showed over 106 dB of UCL.

4. In 95% of cases, SISIs(short increment sensitivity index) at 1,000 Hz and 4000 Hz was below 45% in the right ear in both frequencies and below 55% and 75% in the left ear, respectively.

5. In 95% of cases, tone decays at 2,000 Hz and 4,000 Hz was below 10 dB in both ears.

6. The difference between SRT and PTA (speech reception threshold minus pure tone average) was 4 ± 9.2 dB in the right ear and 4 ± 10.0 dB in the left ear.

7. The dynamic range(uncomfortable level minus speech reception threshold) was 98 ± 13.5 dB in the right ear and 99 ± 13.5 dB in the left ear. We had trouble in estimating the dynamic range in about an half in cases, in which we couldn't estimate the UCL with our conventional audiometry.

8. The results of impedance audiometric tests were as follow:

A. In the tympanogram, all cases were of A type with one exception of B type in the left ear. The mean and its 2 S.D. of its peak level were 22.8 ± 32.94 mm H₂O in the right ear and 23.9 ± 29.81 mm H₂O in the left ear.

B. The mean and its 2 S.D. of the compli-

ance were 0.6 ± 0.54 cc in the right ear and 0.6 ± 0.53 cc in the left ear.

C. The results of stapedial reflex:

a. The mean and its 2 S.D. of the contralateral stapedial reflex at 500Hz, 1,000Hz, 2,000Hz, 4,000Hz were 99 ± 17.7 dB, 87 ± 14.4 dB, 79 ± 13.7 dB, 77 ± 20.0 dB in the right ear and 99 ± 15.9 dB, 88 ± 13.9 dB, 79 ± 13.7 dB, 77 ± 21.3 dB in the left ear. Depending on the tested frequencies, the stapedial reflex wasn't generated in 6 cases in the right ear and 11 cases in the left ear.

b. The mean and its 2 S.D. of the ipsilateral stapedial reflex at 1,000Hz, and 2,000 Hz were 89 ± 16.3 dB, 82 ± 15.9 dB in the right ear and 89 ± 18.0 dB, 83 ± 18.9 dB in the left ear. Depending on the tested frequencies, the stapedial reflex wasn't generated in 1 case in the right ear and 2 cases in the left ear.

9. Eustachian tube function using with impedance audiometry was malfunctioned in 21 cases depending on the tested pressure and the range of peak level of tympanogram was 14 ± 26.9 mm H₂O (tested pressure: +250mm H₂O), 8 ± 21.9 mm H₂O (tested pressure: -250mm H₂O) in the right ear and 11 cases depending on the tested pressure and the range of the peak level of tympanogram was 12 ± 22.5 mm H₂O (tested pressure: +250 mm H₂O), 9 ± 17.3 mm H₂O (tested pressure: -250mm H₂O) in the left ear.

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The Correlation Between Speech Reception Threshold and Pure Tone Audiometry

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Speech reception threshold is a base for word discrimination testing, but it also serves as a check for the reliability of pure tone audiogram.

In order to investigate the correlation between SRT and PTA these tests were carried out in patients with conductive hearing loss and normal hearing, using Grason-Stadler 1702 Audiometer.

The results were as follows;

1) The difference between the scores of SRT and PTA's was 2.4 dB with a range of -3.3 dB ~ $+8.3$ dB in conductive hearing loss, and was 1.9 dB with a range of -6.7 dB ~ $+5$ dB in normal hearing group.

2) The difference between the scores of SRT and each speech frequency of PTA was 6 dB at 500 Hz, 3 dB at 1,000 Hz and 8.8 dB at 2,000 Hz in conductive hearing loss, and 3 dB at 500Hz, 2 dB at 1,000Hz, and 5dB at 2,000Hz in normal hearing group.

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Clinical Study for Tinnitus by Pure Tone Audiometry

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The author presents clinical study for 111 cases of tinnitus with pure tone audiometry from Jan. 1, 1978 to Dec. 31, 1980 in department of otolaryngology, Ewha Womans University Hospital.

The results were as follows;

1) Male to Female ratio was as 1 : 1, and peak age incidence was in the age group of 21 to 30.

2) Most frequent duration was 1 month to 1 year in the cases of the tinnitus.

3) The patient who complained tinnitus only was 10.0% and the patient who compl-

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