

CONCLUSIONS

- The overlap of the two olivocochlear efferent pathways- responsible for the process of contralateral suppression- of both ears and degree of hearing loss has no effect on the process of contralateral suppression.
- There was no clinically significant suppression by contralateral noise signal at 500 and 4000 Hz for the two potentials, 40-Hz and 80-Hz ASSR in patients with ANSD.
- Central masking is a phenomenon mediated by the efferent system, especially by the medial olivocochlear bundle (MOCB)
- Contralateral suppression needs an intact efferent pathway for transmission of the inhibitory signals from the upper auditory cortex where the central masking takes place, to the peripheral system.
- Both ASSR and OAEs have the same neural substrate for the contralateral suppression.
- Patients with ANSD lack contralateral suppression of 40-Hz and 80-Hz ASSR.

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المُلخَص العَرَبِي

تقديم

حققت الدراسة الحالية في تأثير الاخفاء المقابل للضوضاء على الاستجابة السمعية الثابتة الحالة ٤٠ هرتز و ٨٠ هرتز في الترددین ٥٠٠ هرتز و ٤٠٠٠ هرتز في مرضي الاعتلال السمعي.

حققت العديد من الدراسات في تأثير الاخفاء المقابل على الاستجابة السمعية الثابتة الحالة ٤٠ هرتز، ٨٠ هرتز وبعض الجهود المثارة الأخرى مثل الاستجابة السمعية لجذع المخ والاستجابة السمعية الثابتة الحالة ٢٠ هرتز في الأفراد ذوي مستويات السمع الطبيعية. وأظهرت نتائج جميع الدراسات تثبيط مقابل كبير في الاستجابة السمعية الثابتة الحالة ٤٠ هرتز مع أنواع مختلفة من إشارات الاخفاء و أقل تثبيط للاستجابة السمعية الثابتة الحالة ٢٠ هرتز، مع عدم تثبيط للاستجابة السمعية لجذع المخ. يرى المؤلفون أن التثبيط قد حدث نتيجة تأثير الاخفاء المركزي.

عينة البحث

وقد أجريت الدراسة الحالية على عشرة مشاركين بالغين (عشرون أذن) من مرضي الاعتلال السمعي، تتراوح أعمارهم من ١٥ الي ٥٣ سنة ممن حضروا الي وحدة السمعيات بقسم الأنف و الاذن والحنجرة بالمستشفى الجامعي بالإسكندرية. وفقا لدرجة ضعف السمع، تم اختيارهم ليكون على درجة خفيفة و متوسطة من فقدان السمع :

(١) خمسة مشاركين (عشرة أذان) لديهم درجة خفيفة من ضعف السمع الحسي العصبي

(٢) خمسة مشاركين (عشرة أذان) لديهم درجة متوسطة من ضعف السمع الحسي العصبي .

طرق البحث

تم قياس الإستجابة السمعية الثابتة لهذه المجموعة من المرضى باستخدام جهاز الأوديرا ذو القناة الواحدة . تم قياس عتبات السمع في الترددین ٥٠٠ هرتز و ٤٠٠٠ هرتز في الاستجابة السمعية الثابتة ٤٠ هرتز و ٨٠ هرتز قبل وبعد اضافة ضوضاء واسعة المدى في الجهة المقابلة بشدة ٧٠ ديسيبل . تمت مقارنة مقدار التثبيط في الأذنين اليمني و اليسرى و مقدار التثبيط في درجتي ضعف السمع البسيط و المتوسط، أيضا تمت مقارنة عتبات السمع قبل و بعد اضافة ضوضاء الاخفاء. و قد تضمنت المقارنة تحليلات إحصائية.

النتائج

وقد تبين أن، أولاً: تشابك المسارات العصبية - المسئولة عن نقل اشارات التثبيط لقوقعتي الأذن اليمني و اليسري- و درجة ضعف السمع ليس لهما تأثير ذو دلالة علي عملية التثبيط . تانياً : الإخفاء المقابل باستخدام الضوضاء تسبب في حدوث تثبيط ذو دلالة إحصائية و ليس ذو دلالة سريرية في كلا الترددین ٥٠٠ و ٤٠٠٠ هرتز في الاستجابة السمعية الثابتة ٤٠ و ٨٠ هرتز . يحتاج التثبيط ذو دلالة سريرية إلي مقدار أعلي من ارتفاع عتبات السمع كي يتم أخذه في الاعتبار (١٠ إلي ١٥ ديسيبل).

قد حدث التثبيط المقابل من خلال آلية الاخفاء المركزية في القشرة السمعية، ولكن لم تتمكن الإشارات العصبية المثبطة من الوصول إلي الجهاز الطرفي (قوقعة الأذن) من خلال المسارات العصبية ، و ذلك بسبب تضرر هذه المسارات في هؤلاء المرضي ، كما هو تم تشخيصه في دراسات سابقة أظهرت عدم وجود تثبيط مقابل في الانبعاث الصوتي في مرضي الاعتلال السمعي.

الختام

إن نتائج البحث في هذه الدراسة تدل علي أن مرضي الاعتلال السمعي يفتقدوا للتثبيط المقابل للاستجابة السمعية الثابتة الحالة ٤٠ و ٨٠ هرتز لكلا الترددین ٥٠٠ و ٤٠٠٠ هيرتز كما يفتقدوا التثبيط المقابل للانبعاث الصوتي.



جامعة الإسكندرية
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قسم الأذن والأنف والحنجرة

دراسة تأثير التثبيط المقابل للاستجابة السمعية الثابتة الحالة ٤٠ هيرتز و ٨٠ هيرتز فى مرضى الاعتلال السمعى

رسالة مقدمة

لقسم الأذن والأنف والحنجرة - كلية الطب - جامعة الإسكندرية
ضمن متطلبات درجة

الماجستير

فى

أمراض السمعيات

من

أميرة أحمد عبد الفتاح حسن
بكالوريوس الطب والجراحة، ٢٠٠٦
كلية الطب، جامعة أسيوط

[٢٠١٥/٢]



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رسالة مقدمة من

أميرة أحمد عبد الفتاح حسن

للحصول على درجة

الماجستير

فى

أمراض السمعيات

التوقيع

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لجنة المناقشة والحكم على الرسالة

أ.د/ أسامة أحمد صبحي

أستاذ ورئيس وحدة السمعيات

قسم أنف وأذن وحنجرة

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