

The effect of sex hormones on bone metabolism of the otic capsule - an overview

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Influence des hormones sexuelles sur l'oreille moyenne

Oestrogènes

- protégeraient des traumatismes acoustiques,
- diminueraient la perte auditive

Contraception orale

- pas de preuve statistique d'une potentialisation des maladies

Traitement hormonal substitutif

- diminution de la perte auditive chez les femmes en post ménopause

Grossesse

- sensation de plénitude de l'oreille,
- perte auditive réversible dans les basses fréquences

Cycle menstruel

- semble entraîner des fluctuations de la stabilité posturale

Sexe

- presbycousie serait plus importante chez les hommes

Does Pregnancy Affect Otosclerosis?

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the Laryngoscope

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TABLE VI.
Mean Postoperative Pure Tone Bone Conduction
Thresholds (DB).

	500 Hz	1000 Hz	2000 Hz	4000 Hz
Children	14.9	14.2	14.8	20.8
No Children	16.6	15.2	18.2	25.3

TABLE VII.
Four Frequency Postoperative (500, 1000, 2000, and 4000 Hz)
Pure Tone Averages.

	Air conduction	Bone conduction
Children	19.1	16.2
No Children	22.9	18.8
Difference	3.8*	2.7†

* Significant difference $P = .001$.

† Significant difference $P = .016$.

Oral contraception and ear disease: findings in a large cohort study

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Table 1
Ear disease in relation to oral contraceptive use

Condition (n)	Ever	Oral contraceptive use/current or recent	Past
Otitis media (198)	1.1 (0.8–1.5)	1.1 (0.7–1.6)	1.2 (0.8–1.6)
Mastoiditis (27)	0.7 (0.3–1.7)	1.0 (0.3–2.6)	0.6 (0.2–1.6)
Other inflamm. disease (33)	0.6 (0.3–1.2)	0.9 (0.3–2.3)	0.5 (0.2–1.1)
Meniere's dis. (35)	1.0 (0.5–2.1)	0.5 (0.1–1.6)	1.3 (0.6–2.8)
Otosclerosis (31)	1.0 (0.4–2.2)	0.8 (0.3–2.4)	1.0 (0.4–2.5)
Other dis. (77)	1.1 (0.7–1.9)	1.3 (0.7–2.4)	1.0 (0.6–1.8)
Deafness (196)	1.1 (0.8–1.5)	0.9 (0.6–1.3)	1.2 (0.9–1.7)
Vertigo (138)	1.3 (0.9–1.9)	0.9 (0.5–1.6)	1.6 (1.1–2.3)
Tinnitus (42)	0.9 (0.5–1.7)	0.9 (0.3–2.6)	0.9 (0.4–1.7)

The data are relative risks of first hospital referral adjusted for age (5-year groups) for each condition taking non-users of oral contraceptives as the comparison group. 95% confidence intervals are given in parentheses. For details of ICD codes covered by diagnoses, see text.

contraceptive method used. Secondly, and consequent upon the first limitation, the numbers of events in some of the disease categories are small.

Bearing these limitations in mind, our findings are reassuringly negative. The one significant result in the table may reasonably be ascribed to chance given that 27 comparisons have been made. In addition, none of the conditions considered showed any significant relationship with duration or recency of OC use.

A careful Medline search revealed few papers considering ear disease and OC use and most of these were anecdotal or case reports [1–9]. Arnold et al. [1] and Linthicum [3] noted the relationship between pregnancy and otosclerosis, and considered that OCs might be related to the disease through similar mechanisms. In this connection, it is of interest that we found a positive relationship between first hospital referral for otosclerosis and parity. Podoshin et al. [2], however, investigated the hearing of 600 nulliparous

Hormones et otospongiose

- Sex ratio: 2/1
- Etiologie complexe non élucidée
- Aggravation durant les périodes d'intense activité hormonale
- Pas d'interaction entre la parité et la perte auditive
- Suspicion d'une augmentation du risque de perte auditive lors d'une contraception orale
- Association forte entre otospongiose et polymorphisme du gène COL1A1

Rôle des hormones dans le contrôle du métabolisme osseux

- Systeme RANKL - RANK - OPG:

interviendrait dans le métabolisme osseux de la capsule otique

- Ostéoprotégérine:

taux diminué dans l'otospongiose liée à l'infection au *paramyxoviridae*
remodelage osseux de la capsule otique des souris OPG knock-out

- Oestrogènes:

activent la libération de prolactine,
stimulent la production d'ostéoprotégérine

- Prolactine:

active la résorption osseuse par action sur le transport intestinal de calcium
association neuroleptiques (inhibiteurs dopaminergiques) et ostéoporose

**Lien entre prolactine et pathologies
labirinthiques**

Exemple du syndrome de Pendred:

surdit  de perception
+
malformation osseuse du labyrinthe avec  largissement de l'aqueduc du vestibule
+
goitre hypothyroïdien
avec hyperprolactin mie r actionnelle

MAIS pas d' tudes   ce sujet   l'heure actuelle

Perspectives thérapeutiques

- Le rôle de l'ostéoprotégérine n'est pas clairement identifié.
- L'administration d'une dose d'ostéoprotégérine chez des femmes en post-ménopause diminuerait la perte osseuse.
- Le rôle de la prolactine est encore à élucider.

