

Methods: This is a cross-sectional study in which the research subjects are skulls. Computed tomography (CT) of the paranasal sinus of each skull were obtained. And, after that, the different sites of anatomical correlation of the upper region of the bilaterally uncinated process from anterior to posterior were analyzed in the coronal plane.

Results: When analyzing computed tomography, the PU presented fixations on the papyracea lamina, middle turbinate, skull base and interfrontal septum. It was observed that the orbit was the place where the upper fixation was most common. When analyzing the number of fixations on each side, the skulls presented from a single fixation to five simultaneous fixations on the same side.

Discussion: PU is the most important and constant milestone in the osteomeatal complex of the middle meatus, which is the key area for functional endoscopic surgery of the paranasal sinus. And among the bone structures that delimit the recess of the frontal sinus, the upper fixation of the PU is the most important. The classification of the upper PU fixation originally suggested by Stammberger and Hawke, who evaluated TCs with thick cuts, described 3 possible upper fixations, considering that pu is included in a single point. The uncinate process is part of the ethmoid bone and, therefore, there is no insertion in the ethmoid bone, but rather variation of anatomical presentation and its relationships with other structures of the ethmoid itself. Thus, pu can be related to the papyraceal lamina, middle turbinate and anterior skull base, in addition to others already described.

Conclusion: The uncinate process is part of the ethmoid bone and there are multiple variations of the anatomy of its upper region in the ethmoid bone itself and, therefore, there is no applicability in classifying them.

Keywords: Paranasal sinuses; Uncinate process; Anatomy; Radiology; Sinusitis.

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Changes on cognitive performance after cochlear implantation in adults and older adults: A systematic review and meta-analysis

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Objectives: To critically assess the status of the literature on cognitive outcomes after cochlear implantation in adults and older adults.

Design and methods: Studies were identified by searching PubMed/Medline, Scopus, Lilacs, Web of Science, Livivo, Cochrane Library, Embase, Psycinfo, and gray literature. No restrictions were imposed regarding language, publication date, or publication status. The studies design included were randomized clinical trials, non-randomized clinical trials,

quasi-experimental and cohort studies. Eligibility criteria were as follows: (1) the study sample included adults aged 18 or over with severe to profound bilateral hearing loss, (2) the participants received a multi-electrode cochlear implant, and (3) a cognitive test was performed before and after implantation. Risk of bias was assessed using the ROB, ROBINS-I and MASTARI tools (Joana Briggs Institute), depending on the type of study. Meta-analyses of random effects were performed for the outcomes of interest. The level of evidence was assessed using the Grading of Recommendations Assessment, Development and Evaluation (GRADE).

Study sample: Out of 1830 retrieved records, 16 were found eligible (11 non-randomized clinical trials, 3 randomized clinical trials and 2 cohort studies).

Results: In the AlaCog test, with the overall effect improvement after 6–12 months postoperatively [MD = -46.64; 95% CI = -69.96 – -23.33; I² = 71%]. Although the global effect demonstrates statistical significance, the Flanker, Recall, Trail A and n-back test domains did not show statistical significance ($p > 0.05$). For the MMSE, a subgroup analysis was performed, based on postoperative time, but there was no statistical significance in any of the times evaluated [MD 0.63; 95% CI = -2.19 – 3.45; I² = 88%]. For the TMT test, the analysis was subdivided based on the postoperative period, presenting a significant global effect, with a decrease of approximately 9 s in the processing speed in the postoperative period [MD = -9.43; 95% CI = -15.42 – -3.44; I² = 0%].

Conclusion: Hearing loss rehabilitation with cochlear implants may provide positive impacts on cognitive domains. Well-designed studies with longer follow-up periods are necessary to verify whether cochlear implantation influences cognition positively in older adults along the time. Development of new cognitive assessment tools in hearing-impaired individuals is stimulated.

Keywords: Cochlear implantation; Cognition; Older adults; Adults; Systematic review; Cognitive outcomes; Cognitive assessment; Profound hearing loss; Cochlear implant.

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Pneumococcal prevalence in the media ear and nasopharynx of children with acute otitis media

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Objective: To record the presence of *S. pneumoniae* in middle ear effusion (OME) and nasopharynx (NF) of children with recurrent acute otitis media (OMAR), documenting and analyzing differences that could be related to the use of two different types of pneumococcal vaccine (PCV10 and PCV13).

Methods: We analyzed 278 OM And 139 NF samples obtained from 139 children (ages 6 months and 9 months and 10 months; median of 21 months) submitted to myringotomy and ventilation tube insertion by OMAR, between June 2017 and June 2021. Patients had no signs of acute otitis media

or respiratory tract infection and were not under antibiotic therapy at the time of the procedure. The aspiration of the OMS was performed by tympanocentesis, using an Alden-Senturia collector and the NF sample was collected with swab. Bacteriological studies were initiated less than 45 min after obtaining the material and a part of the sample was stored at -20°C for further PCR analysis. Direct molecular determination of pneumococcal serotypes was performed by real-time PCR. Statistical analysis performed with the Mann–Whitney (numerical variables) and chi-square or exact Fisher tests (categorical variables) and measure of association of prevalence ratio together with 95% confidence interval and significance level of 5%.

Results: Vaccination coverage was 77.7% with basic regimen plus booster dose and 22.3% with basic regimen. In OM, *S. pneumoniae* was cultured in 7 (5%) of the children and detected by PCR in 52 (37.4%) of them, an increase of about 7 times (95% CI: 3.5–15.8). Of the 52 CRP children (+), 30 received PCV10 and 22 received PCV13 ($p=0.303$). In NF, *S. pneumoniae* was cultured in 29 (20.09%) of the children and detected by PCR in 58 (41.7%) of them, a two-fold increase (95% CI: 1.37–2.92). Of the 58 CRP children (+), 39 received PCV10 and 19 received PCV13 ($p=0.002$). Pneumococcus of serotype 19A was the most found, both in OMAs (24 of 52 children – 46.1%) and nf (37 of 58 patients – 63.8%). Serotype 19A was more detected in OMe and NF of children who received PCV10 ($p=0.040$ and $p=0.035$, respectively).

Conclusion: *S. pneumoniae* remains very prevalent in NF and in the middle ear of children who develop otitis media. In a group of Brazilian children with OMAR, there was no significant difference in the pneumococcal rates found in the OMOs of children vaccinated with PCV10 or PCV13, but the NF of those vaccinated with PCV13 had significantly less pneumococcus. Serotype 19A was the most prevalent in both NF and OMOs, confirming its importance as colonizer and cause of pneumococcal disease, although its prevalence was significantly lower, both in NF and in OMOs of children vaccinated with PCV13, when compared with those immunized with PCV10. CRP increased, between two and seven times, the possibility of germ detection when compared to the cultural examination. The analysis of the distribution of pneumococci and their serotypes in different countries can contribute to continuously estimate the impact of PCV and the possible need to modify and improve them.

Keywords: *Haemophilus influenzae*; Middle ear; Otitis media; Pneumococcal vaccination; *Streptococcus pneumoniae*.

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SASA/UNIVALI: Overview of constant production in information systems between 2008 and 2019

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Objective: To outline the overview of the production of the Outpatient Hearing Health Service (SASA/UNIVALI) between 2008 and 2019. In addition, it has as its specific objective to update and disseminate epidemiological data in the area, including those of the diagnostic and therapeutic procedures of medium and high complexity, constant in DATASUS and compare with the production of Santa Catarina and the states of the southern region (Paraná and Rio Grande do Sul), considering the parameters obtained in 2011, in a study published by SILVA et al., in which the medium and high complexity of diagnostic procedures performed in Brazilian regions was evaluated, thus evaluating the evolution of PNASA in the Region during this period.

Methods: A documentary, evaluative, quantitative research was carried out, with secondary source database (DATASUS), performing a descriptive, comparative statistical analysis, through absolute and relative frequency tables, with the number of diagnostic and therapeutic tests of medium and high complexity in audiology performed in the southern region.

Results: Apart from the numbers presented only in the city of Itajaí, which is equivalent to the 52 municipalities served in the SASA, and the numbers presented in the southern region, there is a percentage increase in the amounts of tests requested and performed, both of medium complexity and high complexity, if we compare the years 2008–2019. In Itajaí-SC, the increase in requests for medium complexity exams was approximately 206.28%, based on the year 2008 and the last year evaluated being 2019. There is also an 84% increase in high complexity exams between 2011 and 2019. With the numbers obtained for the State of Santa Catarina, there is also an increase, both in the medium complexity exams, in which it presents an increase of 82.8%, as well as in high complexity exams, with an increase of 59.5%. In the medium complexity exams, 99.6% of the requested tests were performed and 100% of the high complexity tests were performed.

Discussion: It is observed that the result of CS is not different from the states: Paraná and Rio Grande do Sul. The medium complexity tests requested in the state of Paraná had an increase of 425% between 2008 and 2019 and an increase of 101.4% in high complexity exams, in addition to the increase of 225.4% in the medium complexity exams that were performed. And in the State of Rio Grande do Sul, an increase in requests for medium complexity exams by 175% and 178% in high complexity exams, in addition to a 176.9% increase in medium complexity exams that were performed in this state.

Conclusion: It is concluded that there was an increase in the number of procedures, both in Itajaí-SC, and in the states of the Southern Region (Paraná, Santa Catarina and