Study of Three-Dimensional Computed Tomography of Frontoethmoidal Cells Using International Frontal Sinus Anatomy Classification

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Abstract : Introduction: Frontal sinus is frequently described as the most difficult sinus to access surgically due to its proximity to the cribriform plate, orbit, and anterior ethmoid artery. Frontal sinus surgery requires a detailed understanding of the cellular structure and FSDP unique to each patient, making high-resolution CT scans an indispensable tool to assess the difficulty of planned sinus surgery. International Frontal Sinus Anatomy Classification (IFAC) was developed to provide a more precise nomenclature for cells in the frontal recess, classifying cells based on their anatomic origin. Objectives: To assess the proportion of frontal cell variants defined by IFAC, variation with respect to age and gender. Methods: 54 cases were enrolled after a detailed clinical history, thorough general and physical examinations, and CT a report ordered in a film. Assessment and tabulation of the presence of frontal cells according to the IFAC analyzed. The prevalence of each cell type was calculated, and data were entered in MS Excel and analyzed using Statistical Package for the Social Sciences (SPSS). Descriptive statistics and frequencies were defined for categorical and numerical variables. Frequency, percentage, the mean and standard deviation were calculated. Result: Among 54 patients, 30 (55.6%) were male and 24 (44.4%) were female. The patient enrolled ranged from 18 to 78 years. Majority33.3% (n=18) were in age group of >50 years.According to IFAC, Agger nasi cells (92.6%) were most common, whereas supraorbital ethmoidal cells were least common 16 (29.6%). Prevalence of other frontoethmoidal cells was SAC- 57.4%, SAFC- 38.9%, SBC- 74.1%, SBFC- 33.3%, FSC- 38.9% of 54 cases. Conclusion: IFAC is an international consensus document that describes an anatomically precise nomenclature for classifying frontoethmoidal cells' anatomy. This study has defined the prevalence, symmetry and reliability of frontoethmoidal cells as established by the IFAC system as in other parts of the world.

Keywords : frontal sinus, frontoethmoidal cells, international frontal sinus anatomy classification

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