INCIDENTAL ABNORMALITIES OF PARANASAL SINUSES 
IN PATIENTS REFERRED FOR HEAD CT SCAN FOR 
 SUSPECTED INTRACRANIAl PATHOLOGY IN LATVIA 

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Introduction. An incidental finding is any abnormality not related to the illness or 
causes that prompted the diagnostic imaging test. Abnormalities of the paranasal sinuses 
are frequently encountered as incidental findings during spiral CT evaluation of head. 
The growing number of imaging techniques performed per patient causes an increase in 
the number of incidental findings. How these findings should be managed is far from settled. 

Aim. The aim of this study was to retrospectively analyze the occurrence and type 
of incidental abnormalities of paranasal sinuses detected by radiographic examinations in 
the Latvian population. 

Materials and methods. The research work includes retrospective data of 300 patients. 
They underwent spiral CT scan of the head referred for non-sinus pathologies in Pauls Stradins 
Clinical University Hospital between February 2013 and October 2015. 

Results. Three hundred patients were included in this study. There were 159 (53.0%) 
women and 141 (47%) men. The mean age was 70.29 (IQR = 17) years (M = 76, IQR = 15 for 
women and M = 67, IQR = 18 for men). Analysing CT scan descriptions made by radiologists 
for primary pathology following data was obtained: incidental pathology in paranasal sinuses 
was mentioned in 32.61% (90 of 276) of descriptions. Three more frequent pathologies were 
mucosal thickening (72.22%, 65 of 90), pathological substrate (20%, 18 of 90) and retention 
cyst (25.55%, 23 of 90). After evaluating CT scans it was found that most frequently affected 
was maxillary sinus (48.95%, n = 147). Mucosal thickening and retention cysts were most 
frequent pathologies (35.3, n = 106 and 10.3%, n = 31 respectively) found within maxillary 
cavities. Therefore the degree of mucosal pathology in maxillary sinus was measured. Bilateral 
severe mucosal pathology (> 9.00mm at least on one of the axial slices) found in 11.22% (11 
of 98) and unilateral severe in 16.25% (13 of 80). Bilateral total Lund-Mackay score was 0 
(complete lucency of all sinuses) in 62.3% of scans (187 of 300). The study does not reveal 
any statistically significant association between incidental finding and age, season or septal 
development (p > 0.05). 

Conclusions 
1. Radiological incidental findings in paranasal sinuses are common in Latvian 
population. They are not influenced by age, season or septal deviation.
2. The most frequent is mucosal thickening or retention cyst in maxillary cavities, 
rarely bigger than 9 mm.
3. Incidental findings may be considered in the individual clinical context of signs and 
symptoms, reducing the risk of overestimation of the real impact of radiographic 
findings.