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# The histopathological features of breast radial scar and adenosis stratified according to BI-RADS-3: a pilot study

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# Summary

- **Background.** Elevated mammographic breast density is an established breast cancer risk factor and could mask tumours within the dense tissue
- Radial scar and sclerosing adenosis are characterized by increased breast cancer risk. However, the risk of breast cancer for proliferative adenosis is unclear and not defined
- **Aim.** The aim of the current pilot study was to evaluate the findings in patients with sclerosing adenosis with and without radial scar stratified to BI-RADS-3
- **Methods.** 12 patients undergoing breast mammographic examination with subsequent needle core biopsy in Latvian Oncology Centre in 2020 were prospectively enrolled in the study
- The breast density according to Breast Imaging Reporting and Data System (BI-RADS) was assessed
- The core needle biopsy samples were stained with hematoxylin and eosin to evaluate the histopathological features
- The comparative analysis of histopathological and clinical data was performed

# Results

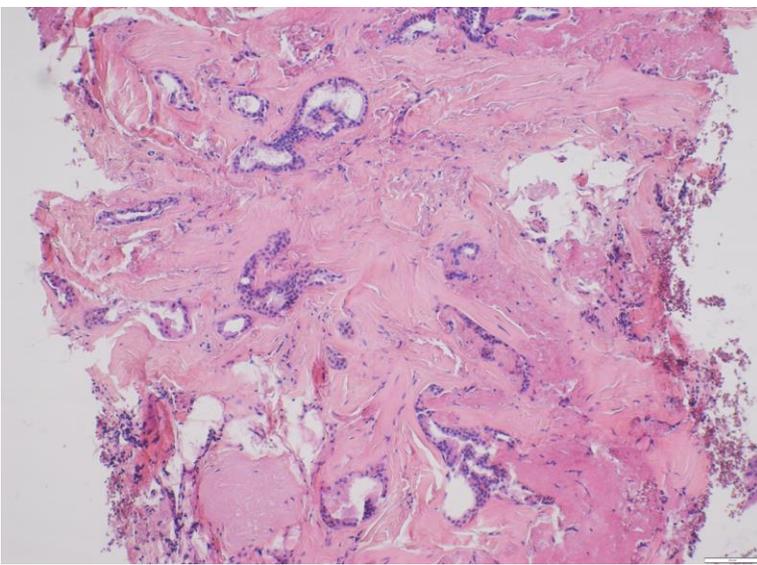


Figure 1. Photomicrograph of radial scar, hematoxylin-eosin, magnification x200

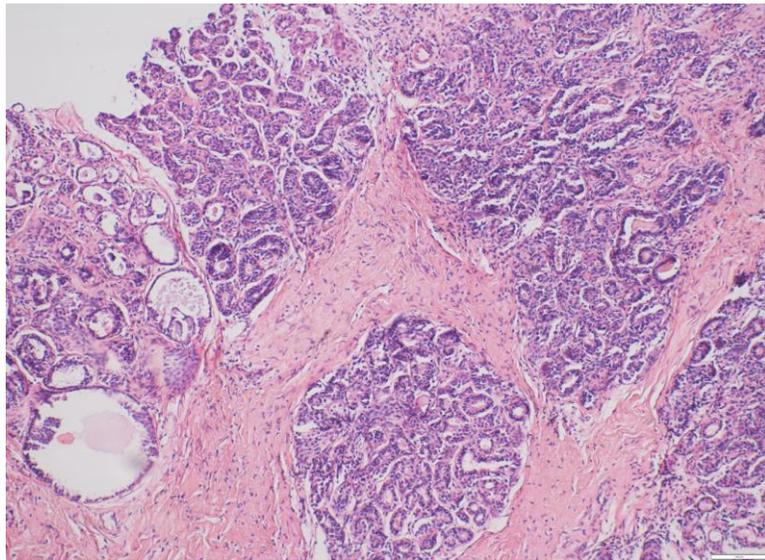


Figure 2. Photomicrograph of proliferative adenosis, hematoxylin-eosin magnification x200

- The median age of patients was 47 (37-68) years
- The median size of mammographic detected lesion was 3.0 (1.8--4.9) cm
- 7 patients had radial scar; 8 patients had breast adenosis.
- The histological features observed in patients with radial scar with and without adenosis were usual ductal hyperplasia, cystic ductal changes, stromal fibrosis, hyalinosis, microcalcification, apocrine metaplasia, mild lymphocyte infiltration.
- These features did not differ between patients with radial scar with sclerosing adenosis and patients with adenosis without radial scar.

# Results

- The obtained results showed the significant correlation between the subtype of adenosis and radial scar ( $p=0.02$ ).
- The patients with breast radial scar in 57% of cases demonstrated the coexistence of sclerosing adenosis

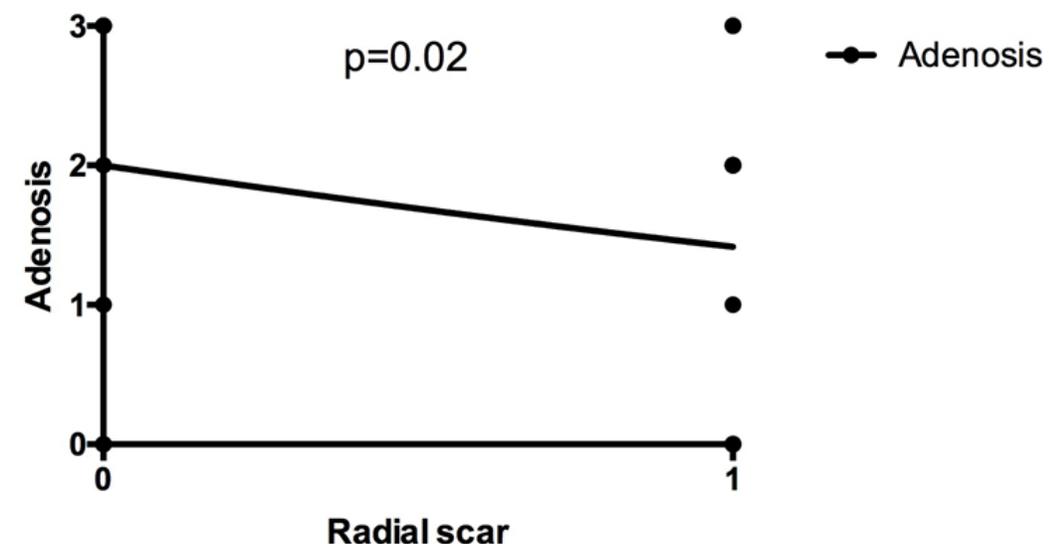


Figure 3. Correlation between the subtype of adenosis and radial scar,  $Rho=-0.34$ ;  $p=0.02$ , Spearman test

# Conclusions

- The histopathological findings in patients with sclerosing adenosis with and without radial scar stratified to BI-RADS-3 are similar, however, in vast majority of cases, the patients with radial scar demonstrated concomitant sclerosing adenosis.
- Since all the lesions corresponded to BI-RADS 3, the histopathological examinations still remain the gold standard for the differentiation between radial scar with and without sclerosing adenosis