



Proceedings

SY05.04 | **Computer Aided Diagnosis**

Long-Term Application Of Automated Ki67 Quantification In Routine Breast Cancer Diagnostics

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Introduction/ Background

The measurement of cell proliferation via Ki67 immunohistochemistry is an important part of tumor diagnostics leading to treatment decisions. The assessment according to the current guidelines is very time consuming which likely leads to counting only few cells or making the analysis completely estimated in many cases. Here, automated image analysis promises a standardized, time-saving and reproducible assessment.

Aims

We prior developed a computerized method that allows for an automated scoring of Ki67. This approach was validated with a study cohort of more than 1000 patients and showed a very high significance in both overall and disease free survival. The aim of this study was to test the capability of this method for the application in the daily routine diagnostics with the concomitant time pressure and huge variability in the patient material and staining results.

Methods

The developed computer algorithm and software was applied in daily routine breast cancer diagnostics under real conditions over more than one year. More than 100 cases have been analyzed.

Results

The retrospective analysis showed that the method was capable of accurately processing most of the images. Problems occurred when the counter staining was too weak which made it even difficult to conventionally assess those images. A user interaction was required in some cases to exclude falsely counted non-tumor cells.