Triage of women with ASC-US/LSIL cytology: The added value of implementation of an HPV-test

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Background
Within the Norwegian cervical cancer screening program women were recommended biopsy after three consecutive smears of minor lesions (ASC-US/LSIL) 6-12 months apart until 2005. In 2005 the recommendations for biopsy changed to the 2nd ASC-US/LSIL, if the HPV-test was positive.

Objective
To determine the outcomes of secondary cervical cancer screening in two time-periods before (1996-1998) and after (2006-2008) implementation of an HPV test

Materials and methods
This study has an historical prospective design by including in retrospect all screening- and follow-up tests for women aged 25 to 69 years old kept by the Department of Clinical Pathology, University Hospital of Northern Norway, Tromsø.

All women with a first ASC-US/LSIL smear in 1996-98 and 2006-08 were identified and compared on outcomes such as proportion of cases resolved within 35 months of index smear and incidence of CIN2+.

The Department of Clinical pathology has used an mRNA test (NorChip PreTect HPV-Proofer) since the autumn of 2005 in secondary cervical cancer screening.

Results
• In 1996-98 and 2006-08 our laboratory processed 89 781 and 70 433 smears, respectively, in which periods 1733 and 1148 first diagnosis ever of ASC-US/LSIL were diagnosed among women 25 through 69 years of age.
• In 2006-08 744 of 1148 eligible women had a valid HPV-test and comprise the study population in this study period.
• In these subsets 14.6% (253/1733) in 1996-98 and 10.4% (77/744) in 2006-08 of the women were eligible for colposcopy/biopsy according to national screening recommendations.
• In 2006-08, when the HPV mRNA test was applied, the mean time to resolve an ASC-US/LSIL was 12 months (range 1-39) relative to 24 months (range 1-146) in 1996-98 (p<0.01).
• There were no differences in the biopsy rate in women recommended colposcopy/biopsy according to national screening recommendations.
• In 2006-08, when the HPV mRNA test was applied, the mean time to resolve an ASC-US/LSIL was 12 months (range 1-39) relative to 24 months (range 1-146) in 1996-98 (p<0.01).
• There were no differences in the biopsy rate in women recommended colposcopy/biopsy according to national screening recommendations.

Conclusion
In triage of women with ASC-US/LSIL, the HPV mRNA test significantly reduced the time from the first abnormal cytology until biopsy and had predictive values comparable with those of repeat cytology.