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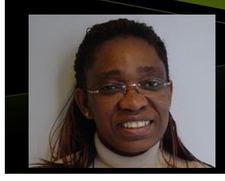
Triage of women with ASC-US/LSIL cytology: The added value of implementation of an HPV-test



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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.

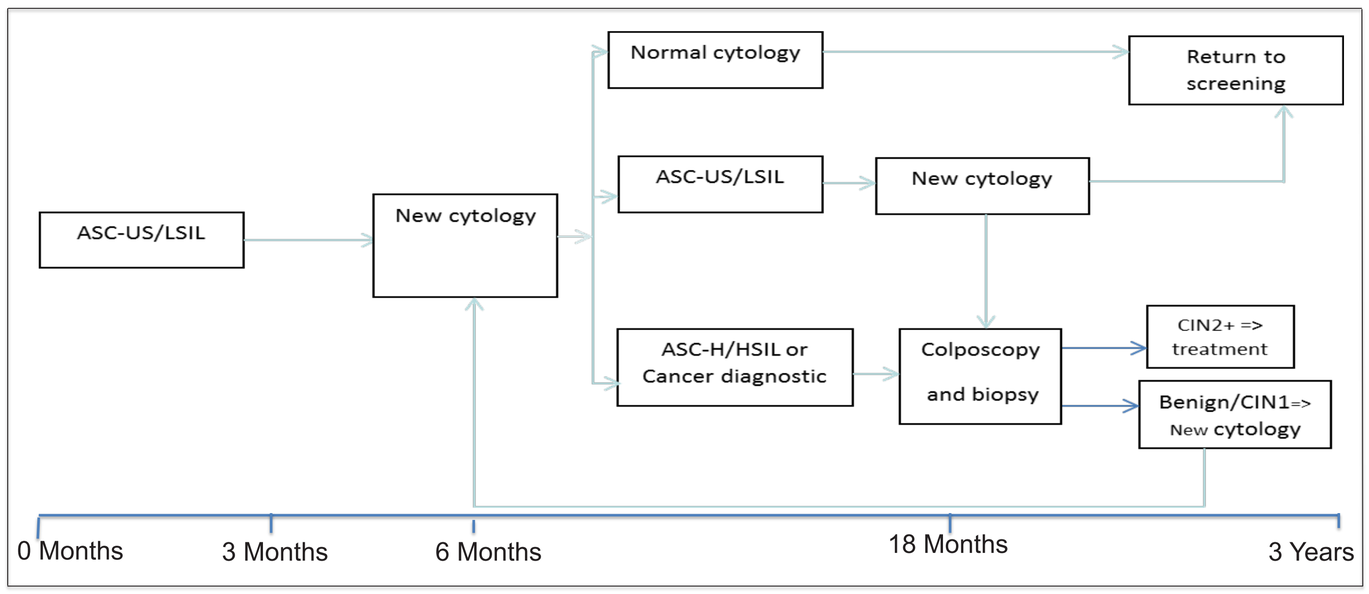

Figure 1. Flow-chart indicating the guidelines for follow-ups during first study period 1996 – 1998.

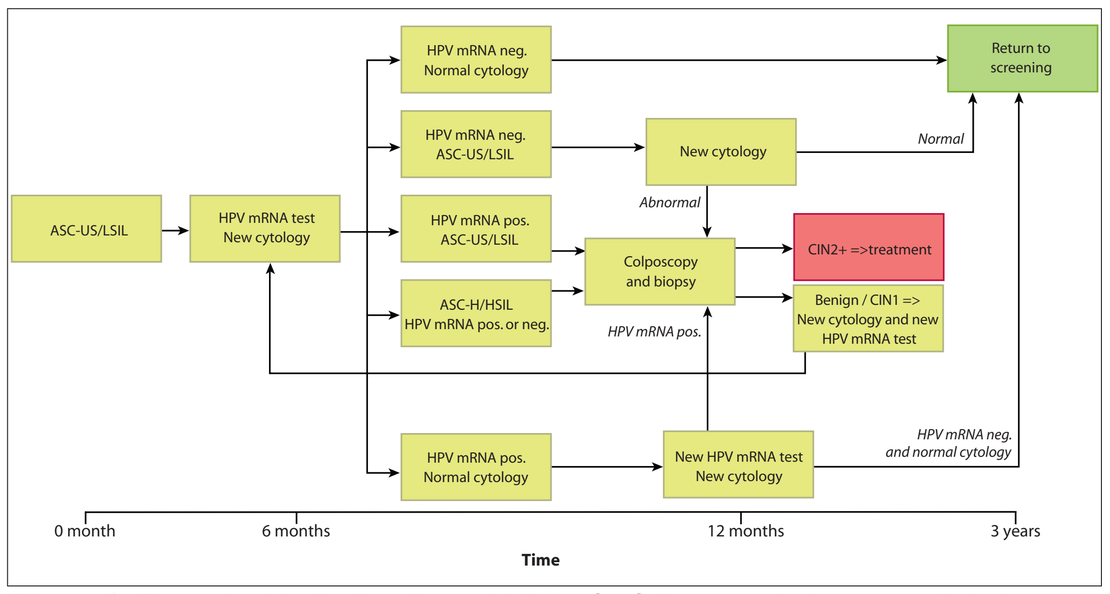

Figure 2. Flow-chart indicating the guidelines for follow-ups during second study period 2006 – 2008. (Source: Sørbye SW et al. 2010)

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 24 months (range 1-146) in 1996-98 ($p<0,01$).
- There were no differences in the biopsy rate in women recommended colposcopy (49.4% versus 53.2%), nor the positive predictive value of CIN2+ 67.2% (84/124) versus 68.3% (28/41) over the time-periods.

Conclusion

Study period	Number of cases	Average time taken to biopsy
1996 – 1998	125	24 (23,8 ≈ 24) Months
2006 – 2008	41	12 (11,7 ≈ 12) Months

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