HPV mRNA Test In Primary Screening of Women 20-34 Years

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Objective

To assess the performance of HPV mRNA test in primary screening.

Conclusion

The HPV mRNA test may be used in primary screening for both women 20-34 and 35-69 years. Due to differences in test properties and understanding of oncogenesis of cervical cancer, studies comparing "head-to-head" DNA and mRNA tests in primary screening are warranted.

Background

Primary cervical screening using HPV test relative cytology has been advocated because of higher sensitivity for detection of CIN2+. However, HPV DNA testing is not cost-effective in women 20-34 years due to a high positivity rate of HPV infection.

There are no conflicts of interests

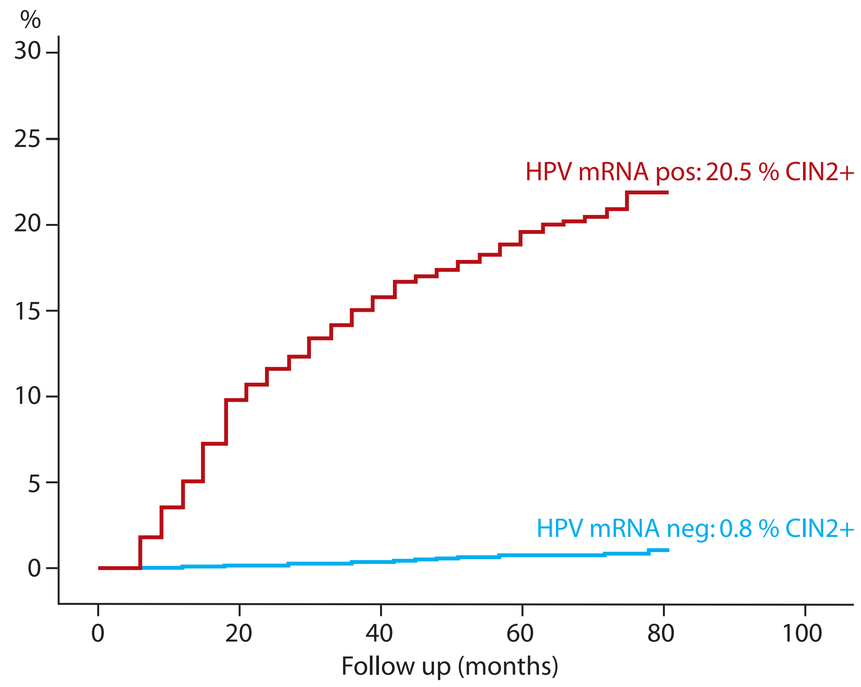
Methods

In 2003-2004 18 852 women were tested with HPV mRNA (PreTect HPV-Proofer, NorChip AS) in primary and secondary screening. Women with a history of abnormal PAP-smear, with biopsy with CIN2+ before screening or until 3 months after, were excluded. Eligible were 12 958 women 20-69 years in a situation resembling primary screening. Follow-up through December 2009 were done through national surveillance of CIN2+ in three registries administered by the Norwegian Cancer Registry (CIN treatment registry, CIN biopsy registry, Cancer registry). All analyses were done by survival analysis in SPSS (version 17.0).

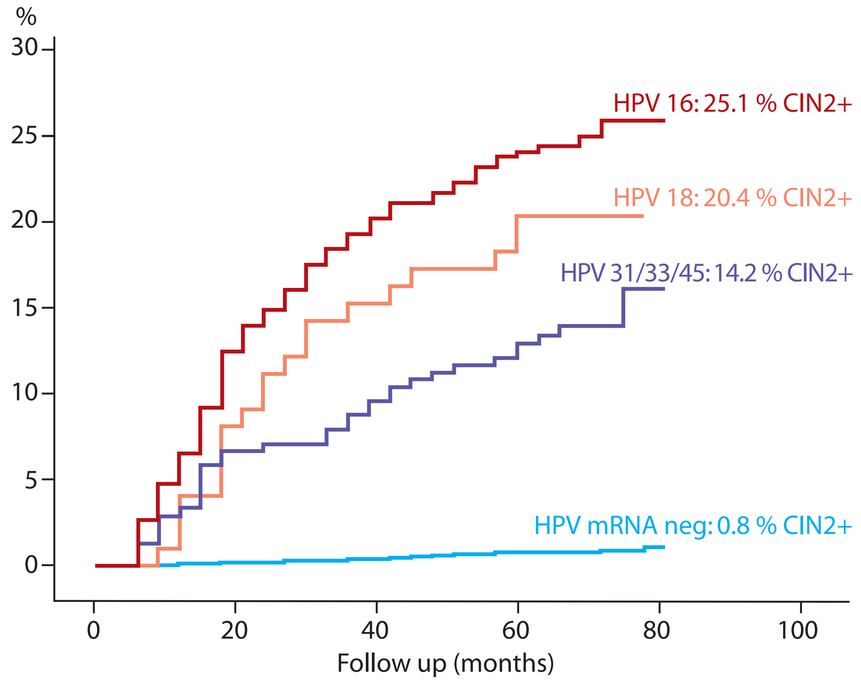
Results

5.2% were HPV mRNA positive at screening. The overall cumulative rate of CIN2+ was 1.8% through 81 months of follow-up. For women 20-34 years (n=5 085) 9.4% were HPV mRNA positive at baseline and the overall cumulative rate of CIN2+ was 2.9%. For women 35-69 years (n=7 873) 2.5% were HPV mRNA positive at baseline and the overall cumulative rate of CIN2+ was 1.1%. Cumulative rates by baseline status for HPV mRNA positive and HPV mRNA negative in women 20-34 years were 20.7% and 1.0%, respective 20.1% and 0.6% in women aged 35-69 years. Except for HPV-18, the cumulative incidence rates for CIN2+ were relative constant for HPV-16 and HPV-31,-33,-45 by age.

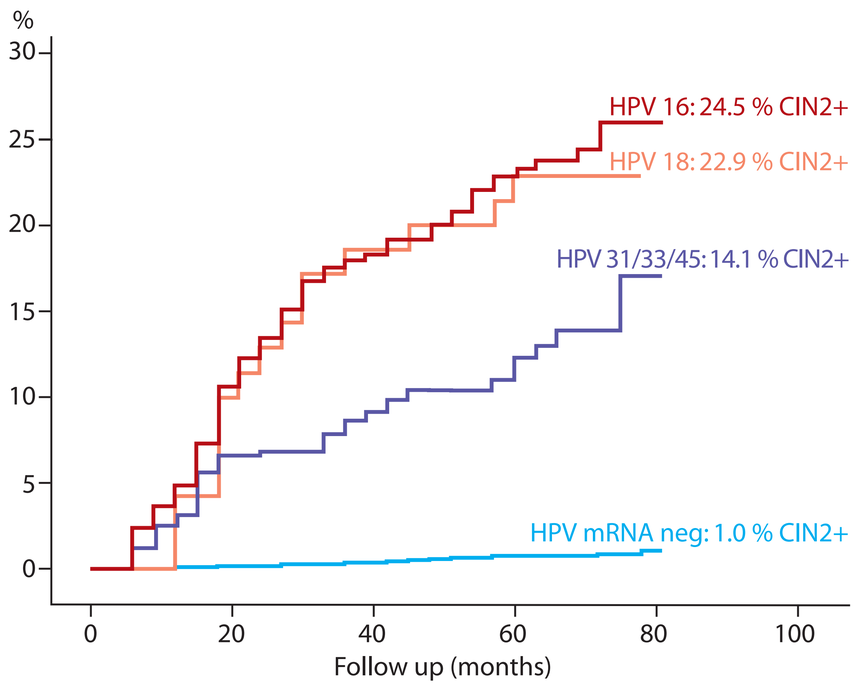
Cumulative incidence of CIN2+ in women 20–69 years



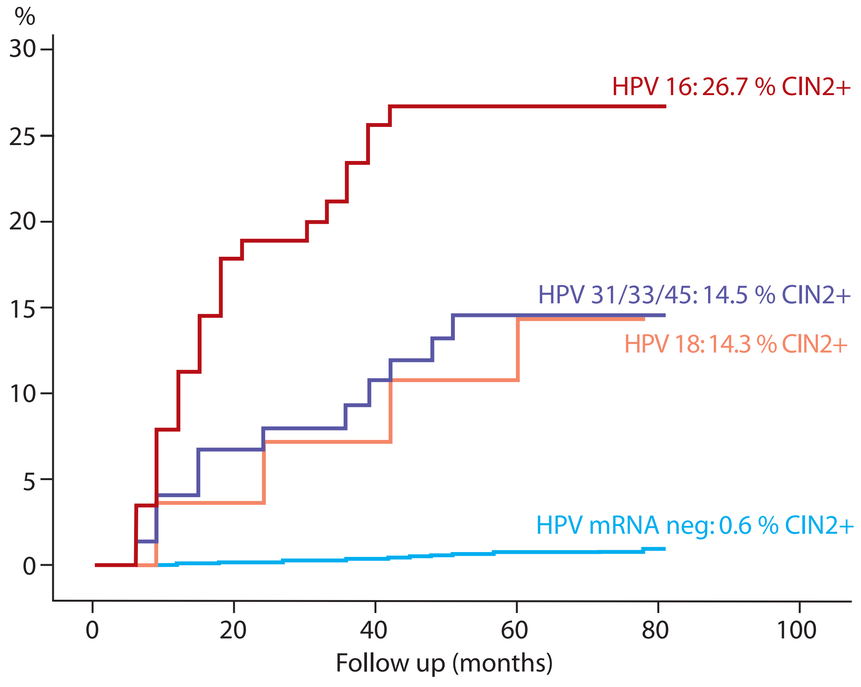
Cumulative incidence of CIN2+ by HPV-type in women 20–69 years



Cumulative incidence of CIN2+ by HPV-type in women 20–34 years



Cumulative incidence of CIN2+ by HPV-type in women 35–69 years



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