



XIII INTERNATIONAL WORKSHOP ON  
LOWER GENITAL TRACT PATHOLOGY  
HPV Disease and Cervical Cancer: Summing Up  
ROME | APRIL 12-13 2018

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# Cytology and 3-type HPV E6/E7 mRNA Co-testing in women 25-33 years

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No conflicts of interests to declare



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# Why use a 3-type HPV mRNA test?

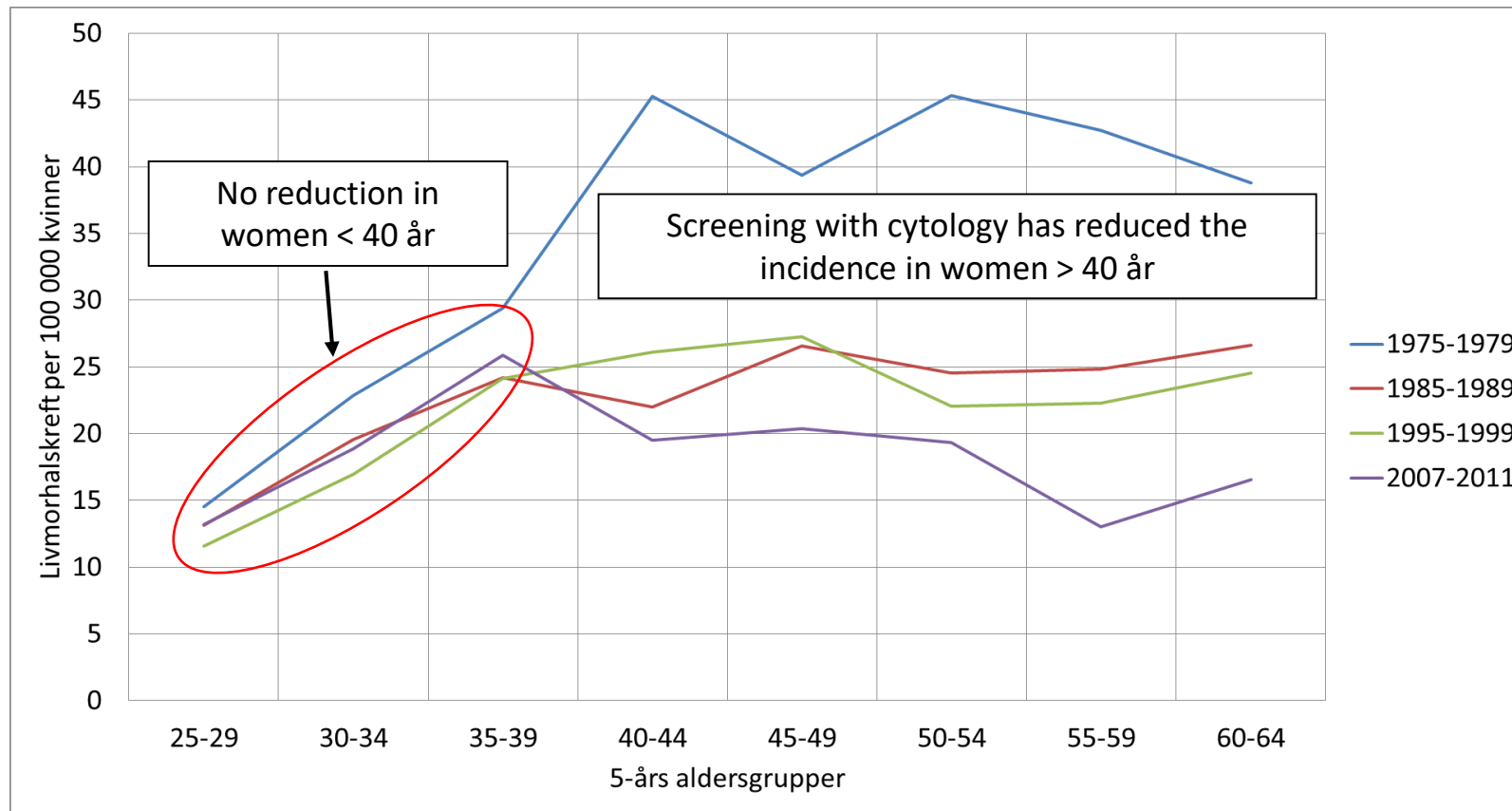
- HPV 16, 18 and 45 are aggressive HPV types known to cause a more rapid development of severe lesions
- 90% of cervical cancer in women younger than 40 years of age are caused by HPV 16, 18, 45
- 94% of adenocarcinomas are associated with HPV 16, 18, 45
- Low positivity rate even among young women < 33 years

# Background

- Despite organized screening in Norway the incidence of cervical cancer in young women is increasing
- Screening with cytology has limited impact of reducing cervical cancer in women < 40 years
- 25% of all women diagnosed with cervical cancer had normal cytology within 3 years of cancer diagnosis
- Implementation of HPV DNA in primary scr from 2019 for women 34 -69
- Women 25-33 still to be screened by cytology alone

# Cervical cancer in Norway

- Highest incidence of cancer in women 35-39 years
- Screening with cytology no reduction of cancer < 40 y



# Objectives

- Evaluate if a specific 3-type HPV E6/E7 mRNA test as co-test with cytology will add value to program sensitivity in women 25-33 years
- Evaluate the prevalence of CIN2+
- Estimate the positive predictive value (PPV) for CIN2+ using cytology and HPV E6/E7 mRNA test
- Evaluate the risk of CIN2+ in women with negative co-test

# Methods

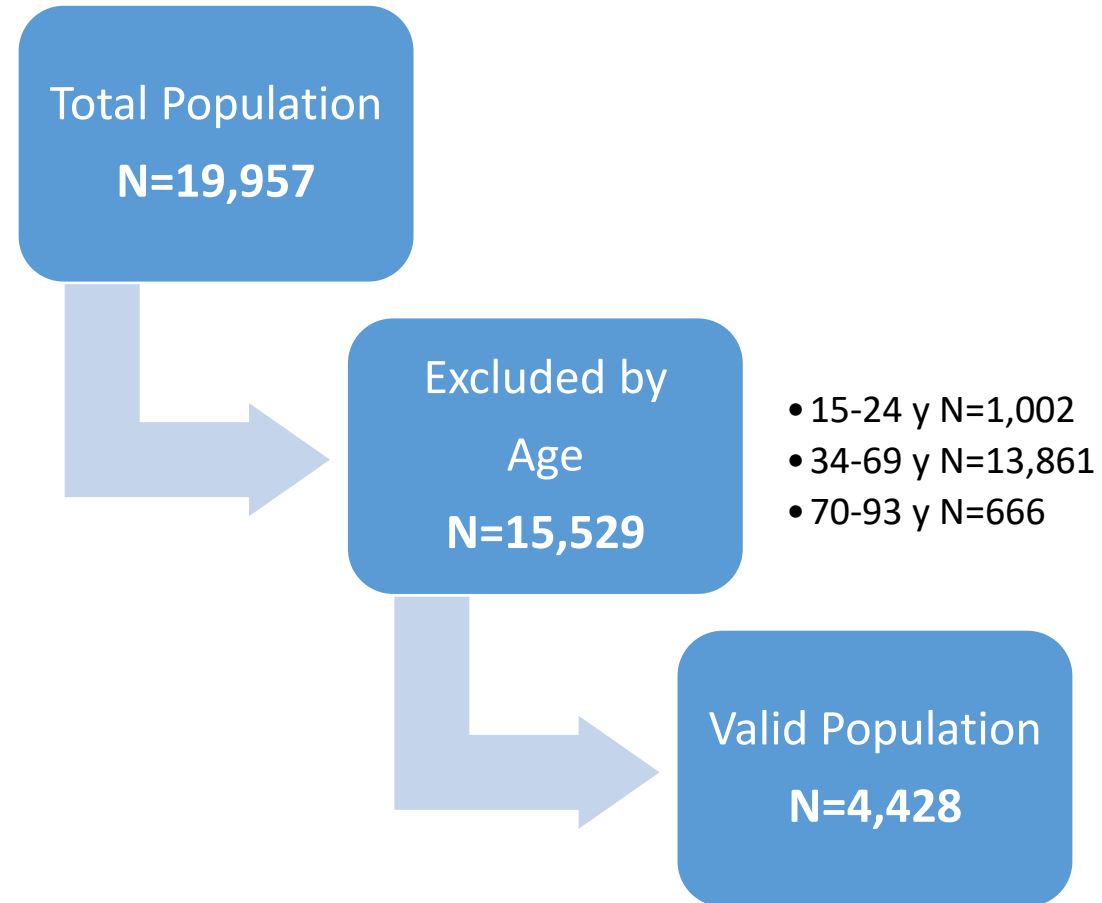
The study was initiated by Clinical Pathology, University Hospital of North Norway starting in April 2016 (ongoing) with follow up until February 2018

Women attending the Norwegian screening program in the two most northern counties Troms and Finnmark

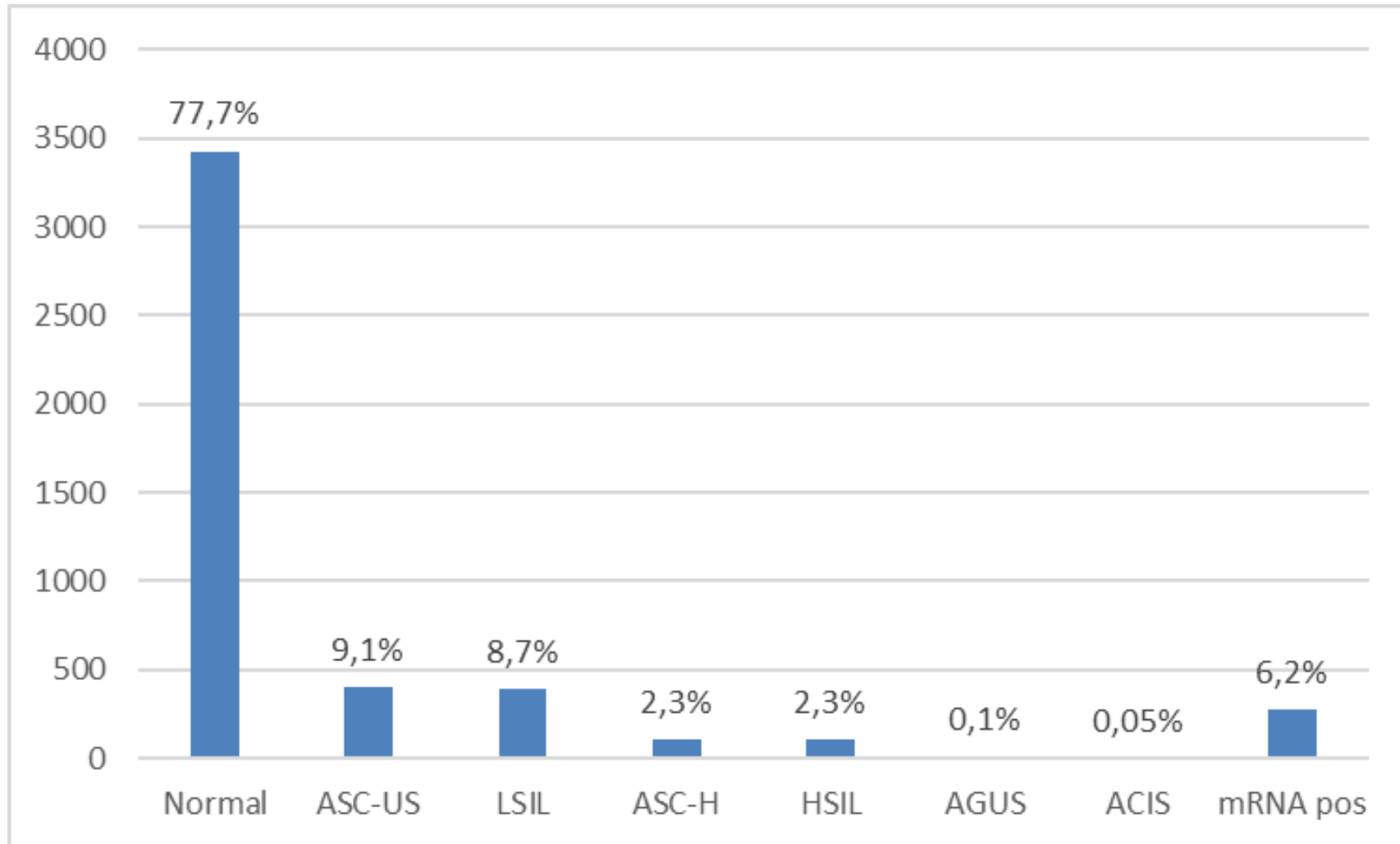
- Cytology: Bethesda system: Liquid Based (LBC)
- Histology: CIN classification - Outcome: CIN2+
- HPV mRNA: PreTect SEE  
Individual genotyping of HPV E6/E7 mRNA 16, 18 and 45

# Study population

## Women in Troms and Finnmark County (2016-2018)

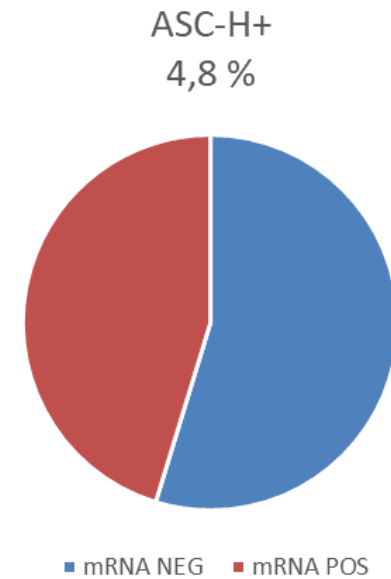
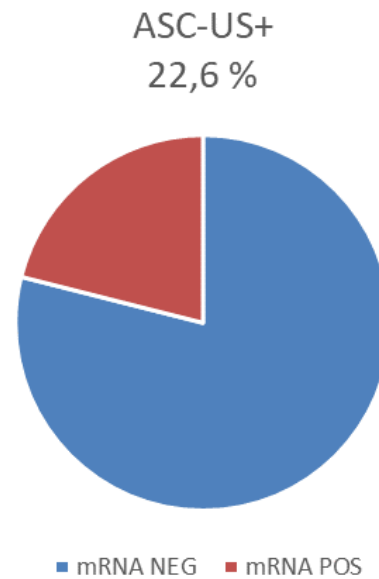
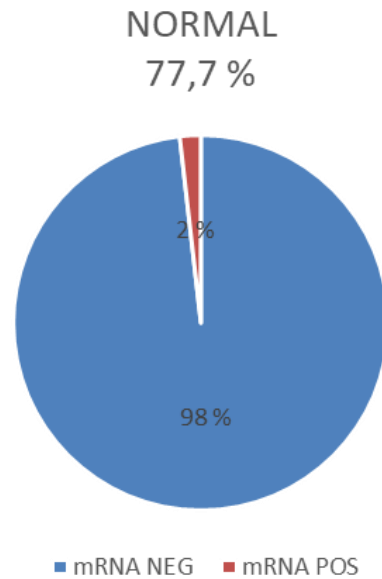


# Cytology diagnosis among women 25-33 years



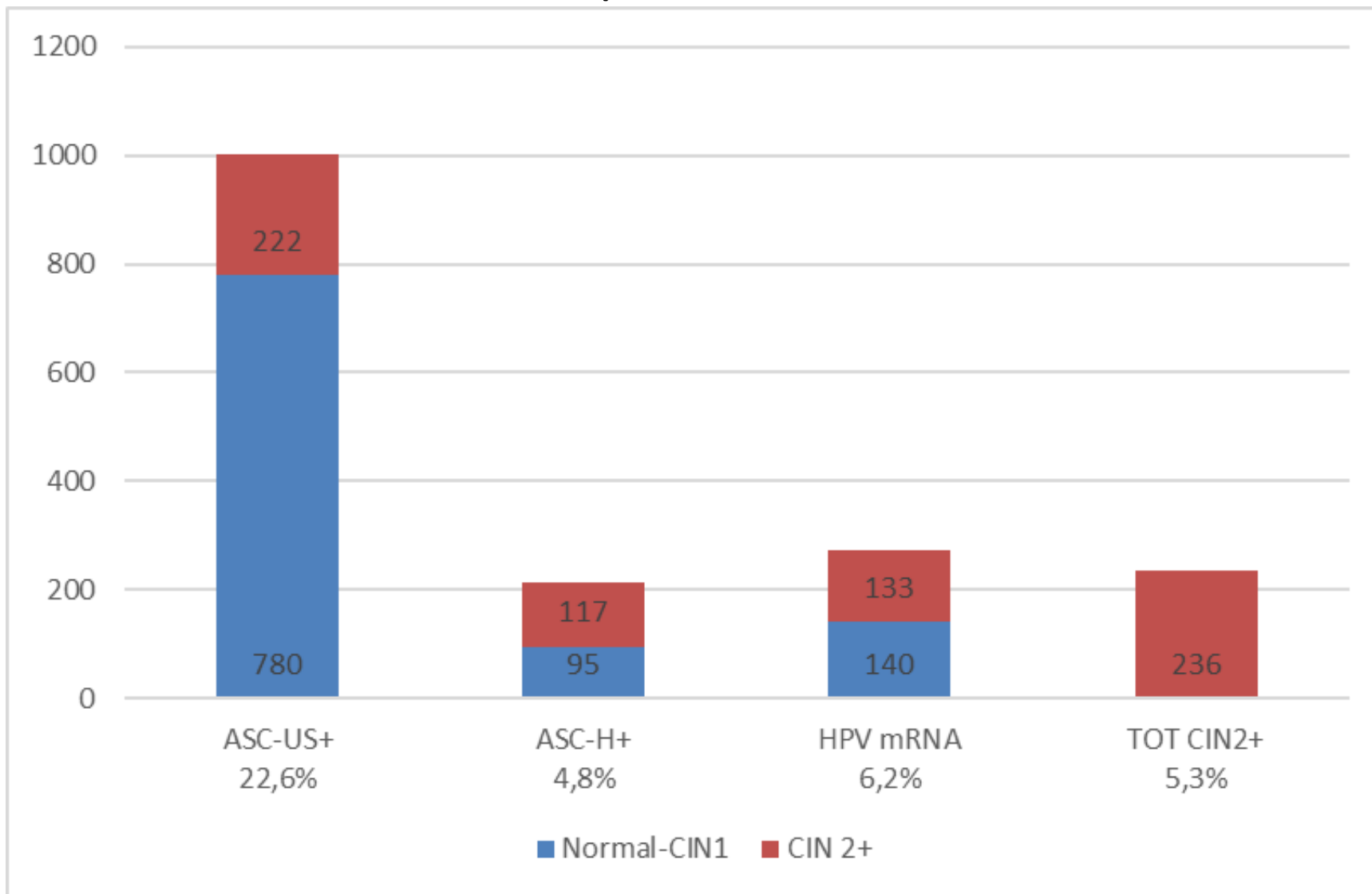


# HPV mRNA positive in correlation to Cytology

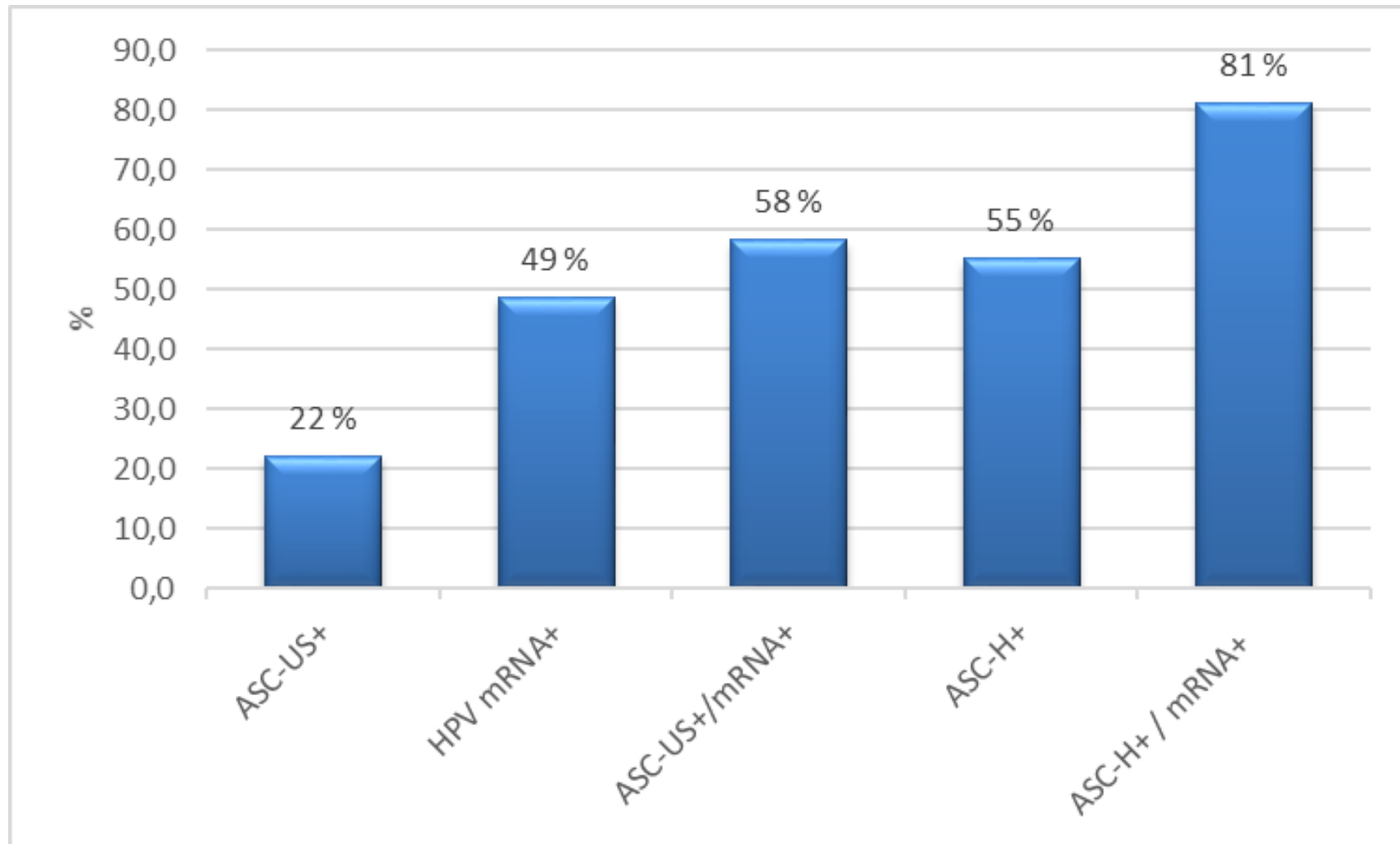


# Cytology and HPV mRNA versus biopsy

## Follow-up=> febr.2018

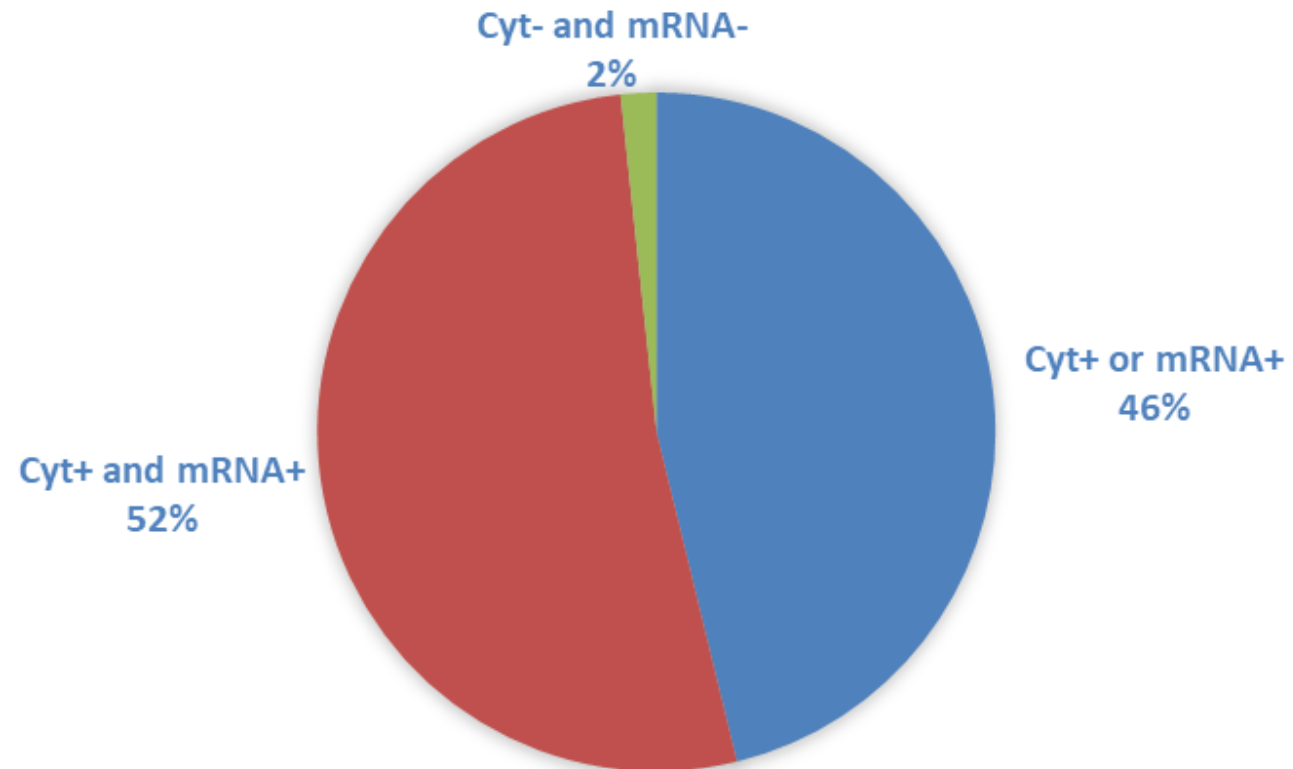


# PPV for CIN2+ by HPV mRNA test and cytology



# Total CIN2+ cases (n=236)

## Co-test results



# Summary

- 22.6% of women 25-33 years had abnormal cytologi (ASC-US+)
- 6.2% had a positive 3-type HPV mRNA test
- 5.3% had CIN2+
- PPV for CIN2+
  - ASC-US+ 22%
  - HPV mRNA+ 49%
  - ASC-US+ and HPV mRNA+ 58 %
- Only 0.09% of co-test negative women had CIN2+

# Conclusions

- Co-test will reduce the risk of cervical cancer in young women
- A low HPV mRNA positivity rate corresponds to a low referral rate which is beneficial in a screening situation
- Double positive (ASC-H+ and HPV mRNA+) have remarkable high PPV for CIN2+ (81%) justifying direct treatment without colposcopy and biopsy; «Screen and Treat»

# Future perspectives for 3-type HPV mRNA

- Co-test to cytology in young women
  - => Reducing current cervical screening failure rate
- Screen and Treat
  - in low and middle income countries (LMIC)
  - => Simple protocol - Low cost
  - => Reduce overtreatment