The interpretation of HPVpositive borderline cytologies: new challenges in gynecologic cytology

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Borderline cytologies

- ASC-US
 - Atypical squamous cells of undetermined significance
- ASC-H
 - Atypical squamous cells, cannot exclude HSIL
- AGC
 - Atypical glandular cells

ASC-H: Atypical squamous cells, cannot exclude HSIL - usually few abnormal small cells with slightly enlarged nuclei

- DD metaplastic cells





5-Year Risk of HSIL and Cancer: ASC-H



The positive predictive value (PPV) of ASC-H is about 40% (ASC-H 35%, ASC-H HPV+ 45%) vs. HSIL 69%

AGC: Atypical glandular cells

•Scant cellularity, not more than 1 criterion for AIS (palisading/feathering/ rosettes)

•e.g.: Nuclear enlargement (3-5x) but cytoplasm maintained. Some palisading with nuclear crowding, cytoplasm still evident; scant abnormal cellularity

•Histologically most positive cases are squamous lesions





5-Year Risk of HSIL and Cancer: AGC



The positive predictive value (PPV) of AGC is about 13%, 45% (HPV+) vs >70%* in AIS

ASC-US: Atypical squamous cells of undetermined significance

- Superficial or intermediate cells DD LSIL
- Enlarged nuclei (2,5-3x), minimal hyperchromasia and shape irregularity





5-Year Risk of HSIL and Cancer: ASC-US



The positive predictive value (PPV) of ASC-US is about 6,9% (Italy 5%), when HPV+ 18% (Italy 10-12%)

5-Year Risk of HSIL and Cancer: ASC-US



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Are HPV+ ASC-US and LSIL equivalent?



 The positive predictive value (PPV) of ASC-US (HPV NOS) is about 5%, if HPV+ is 10-12% vs. LSIL 9-10%

HPV+ ASC-US: an accurate cytology is still needed

- HPV+ cases with few atypical large cells, may already be classified as LSIL, if at least ASC-US morphological criteria are fulfilled
- Changes that do not fully satisfy the criteria of atypia may be classified as negative: these women will have a follow-up in 12 months.













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Mind the changes in the pattern!

Take-home message

- Should we upgrade HPV+ ASC-H/AGC to HSIL/AIS?
 - No, the difference in PPV is relevant
- Is HPV+ ASC-US equivalent to LSIL?
 - Statistically yes, but we still need an accurate cytology!
- Rule of the moose: Look for changes in the pattern!

