ASC-US and LSIL

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ASC-US and LSIL in SurePath

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- The Bethesda System criteria for ASC-US and LSIL are the same in SurePath as for conventional smears
- The morphology is similar
- Adjusting to SurePath should not be very difficult for these lesions

Bethesda comments

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- On LSIL: “there are minimal differences between conventional preparations and liquid-based preparations; the nuclei may show less hyperchromasia on LBPs, but overall the morphology of the cells is the same as in conventional preparations” p. 142 of 3rd Edition

Bethesda comments

- On ASC-US: “Cells may appear smaller and have higher nuclear to cytoplasmic ratios in two-dimensional views due to fixation in liquid media (which leads to rounding up of cells) and lack of flattening on the slide” p. 107 of 3rd Edition

Minor morphologic differences

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- Cells of interest are in smaller groups, more dispersed
- Nuclear hyperchromasia may be more subtle

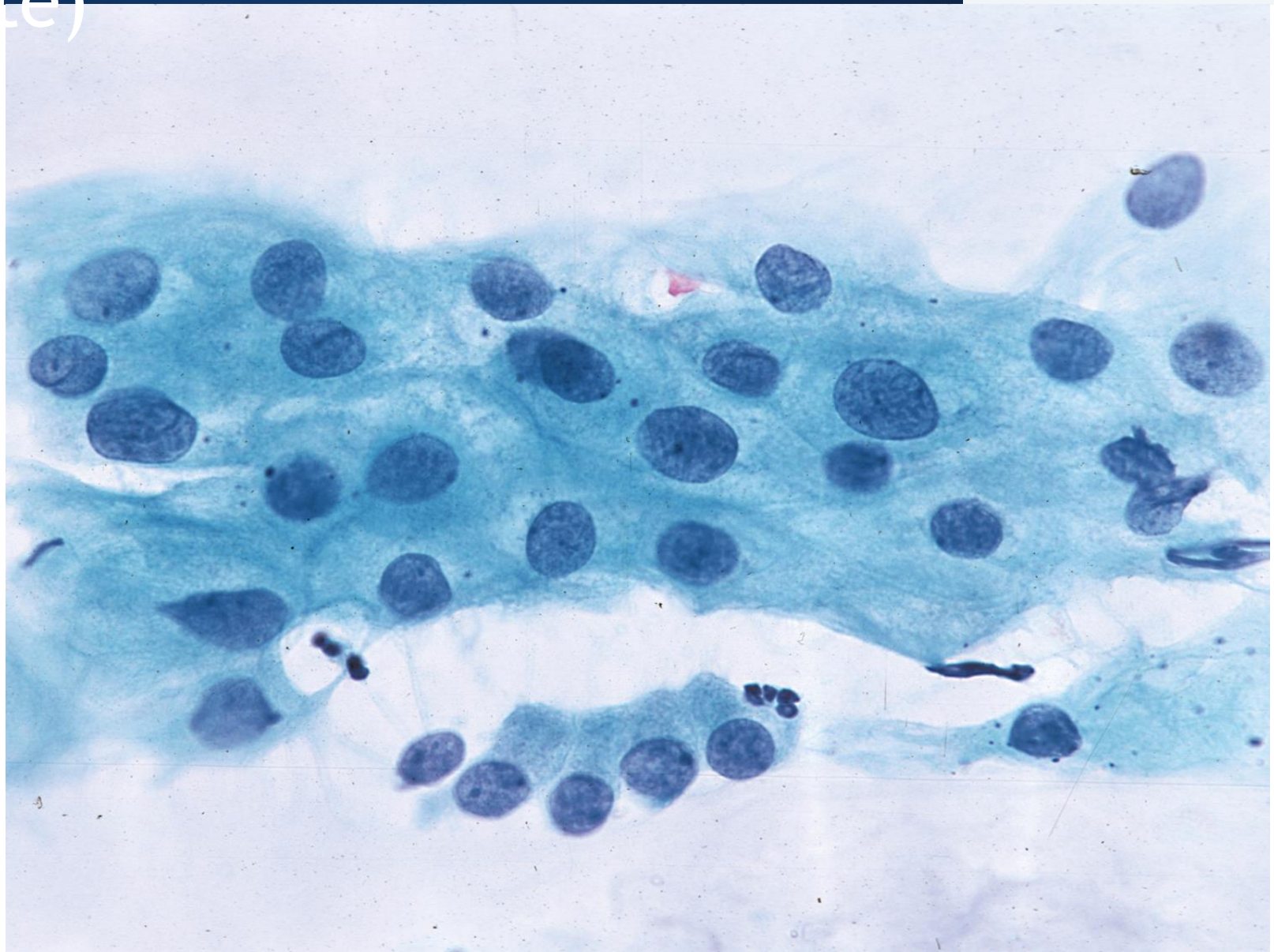
- Nuclear detail is better appreciated
- Nuclear contour irregularities are easier to see
- Koilocytic cavities are more pronounced

Hoda RS, Loukeris K, and Abdul-Karim FW. *Diagnostic Cytopathology* 2013;41:257-78.

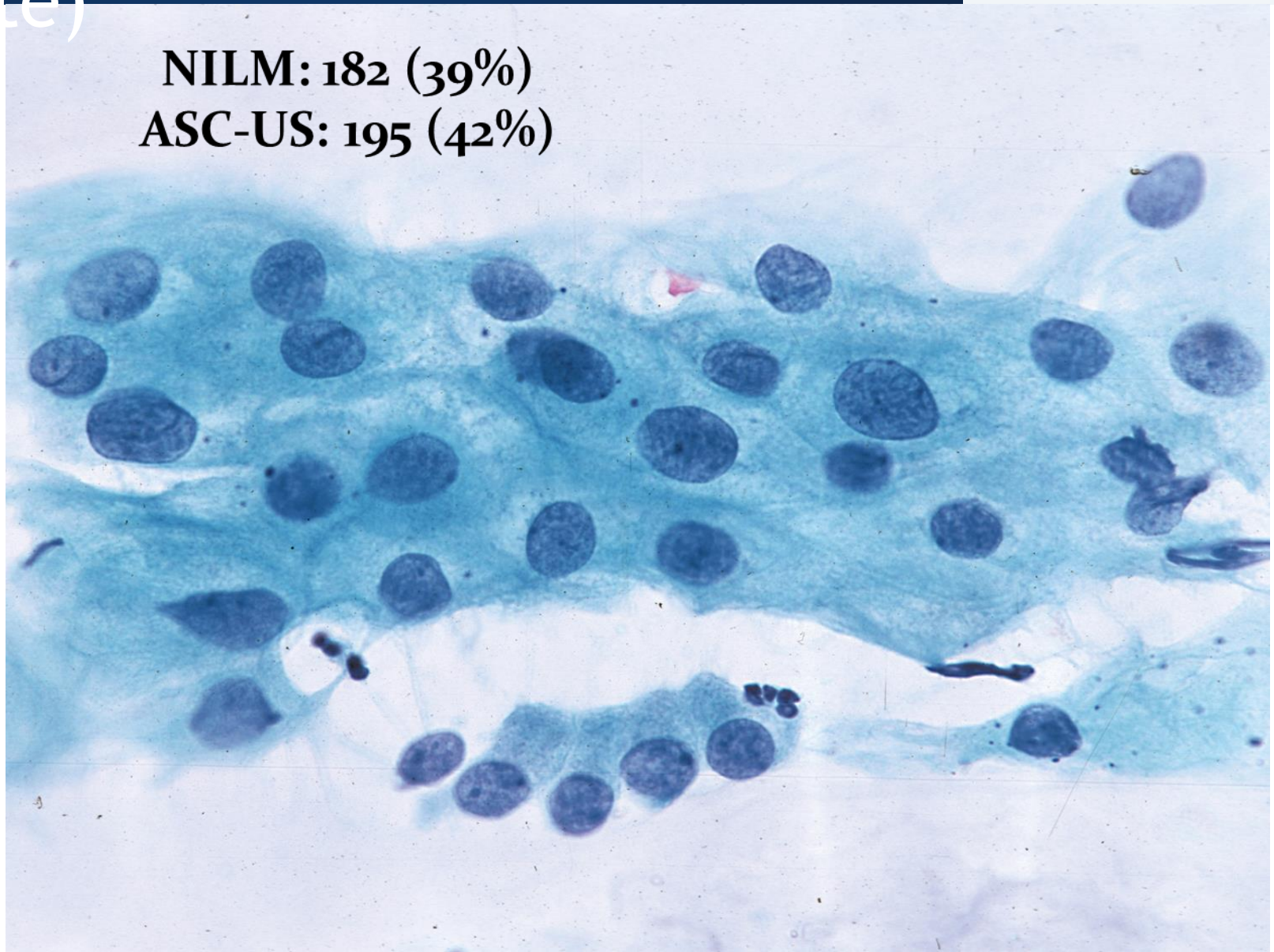
High degree of subjectivity

- ASC-US and LSIL remain very subjective categories in liquid-based Pap tests
- Using SurePath cannot be expected to improve inter- or intraobserver agreement relative to conventional smears
- Examples from the American Society of Cytology online survey for the Bethesda Web Atlas illustrate this

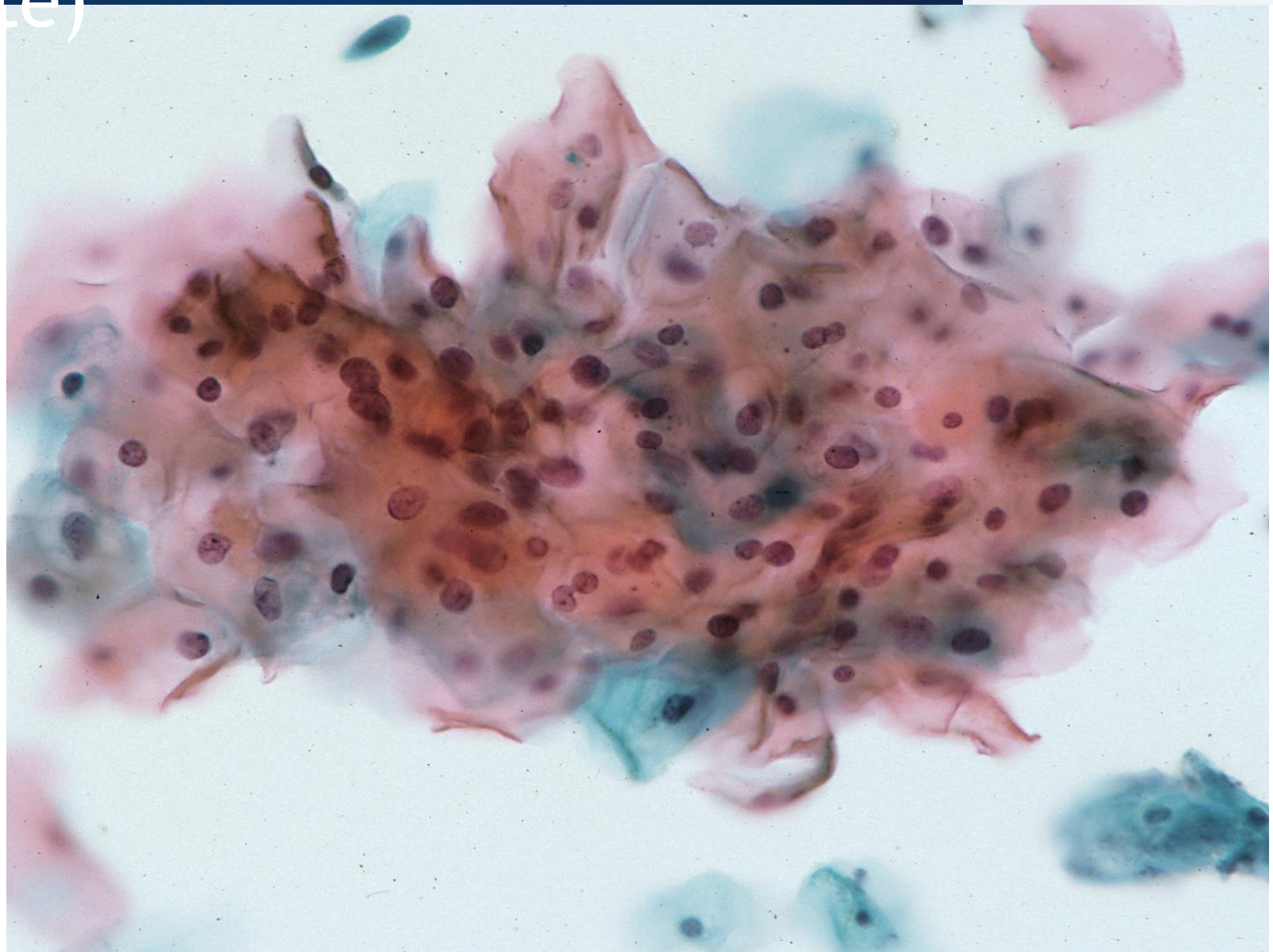
Bethesda Web Atlas (ASC Website)



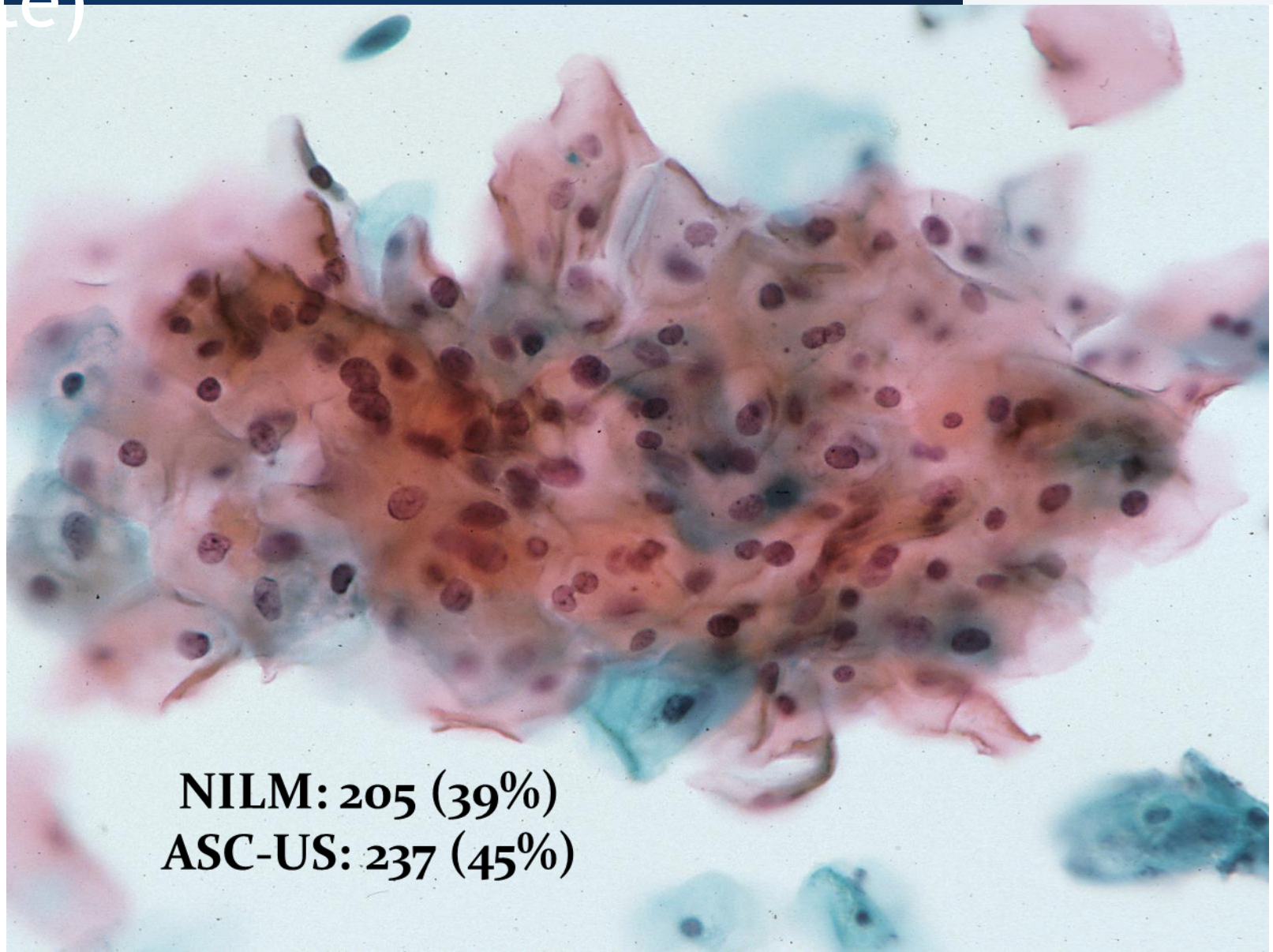
Bethesda Web Atlas (ASC Website)



Bethesda Web Atlas (ASC Website)



Bethesda Web Atlas (ASC Website)



Bethesda Web Atlas (ASC Website)

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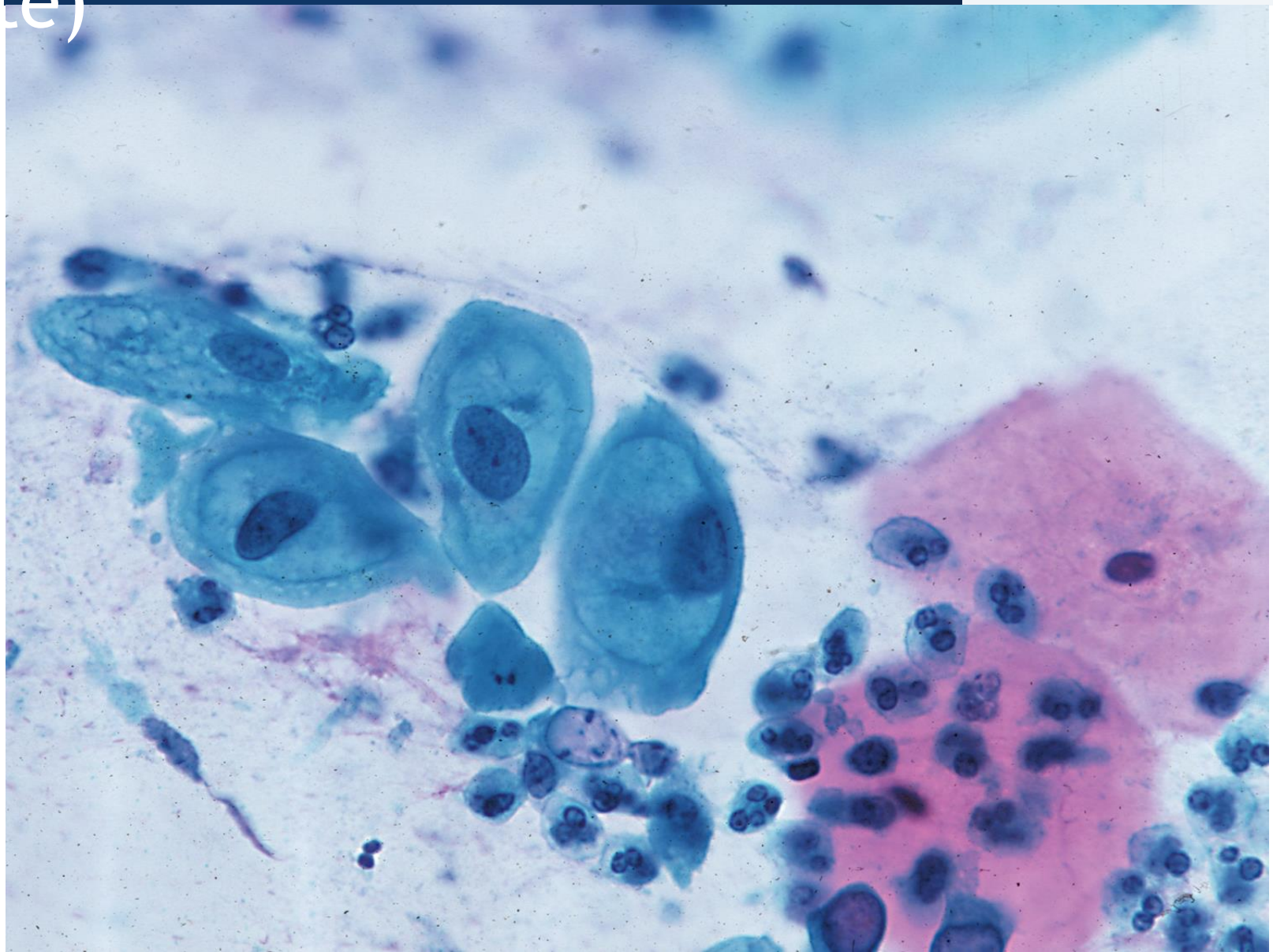
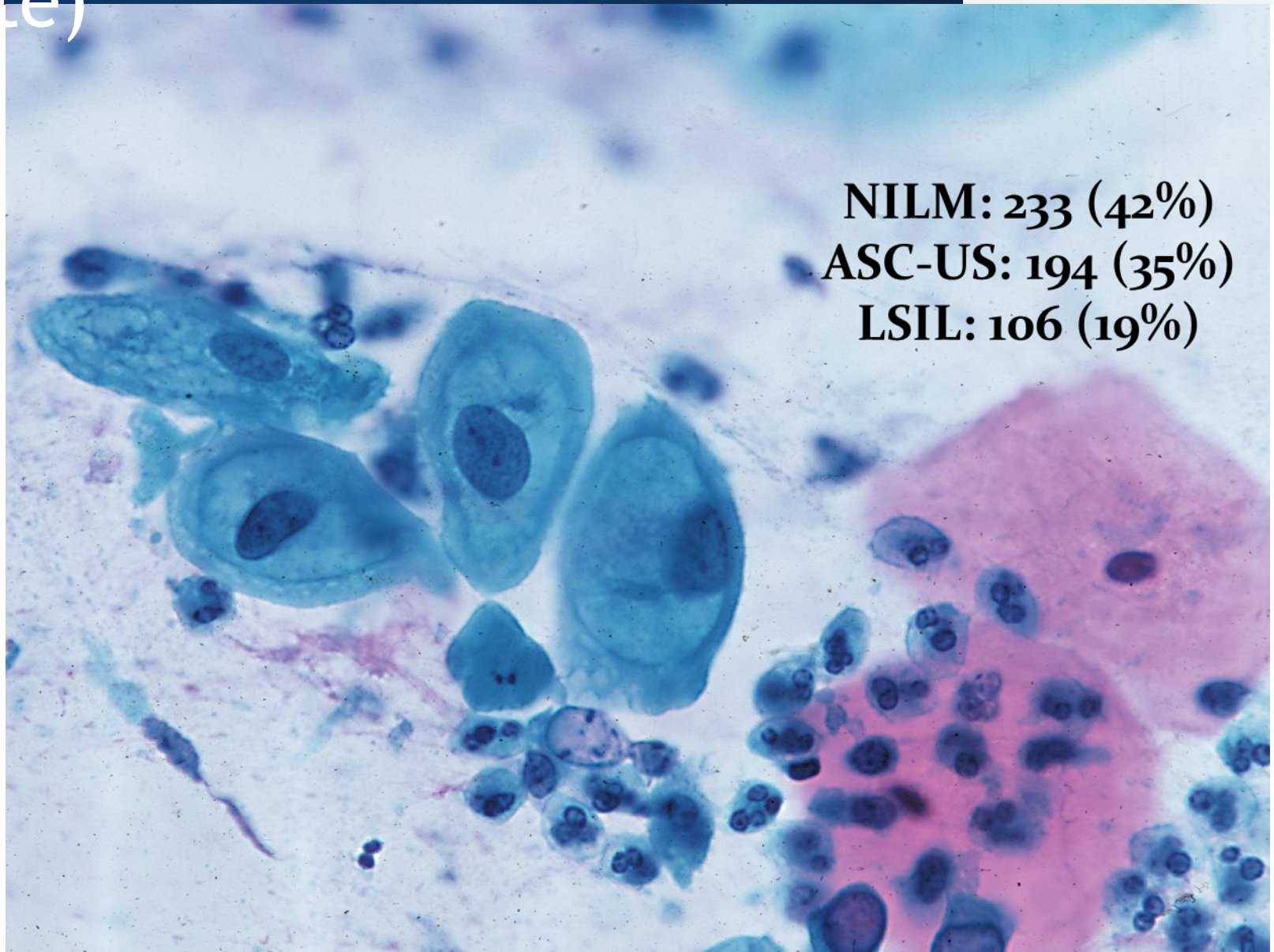


Bethesda Web Atlas (ASC Website)



IAC/CAP Digital Atlas

- The International Academy of Cytology and the College of American Pathologists have recently published an online educational web atlas
- I was one of the contributors to the annotations
- The cases have been scanned as whole slide images and are meant to be good examples of the entities they represent

www.cytology-iac.org/educational-resources/digital-atlas-of-gyn-cytopathology

iac.pathpresenter.net

LSIL #1 – nuclear enlargement

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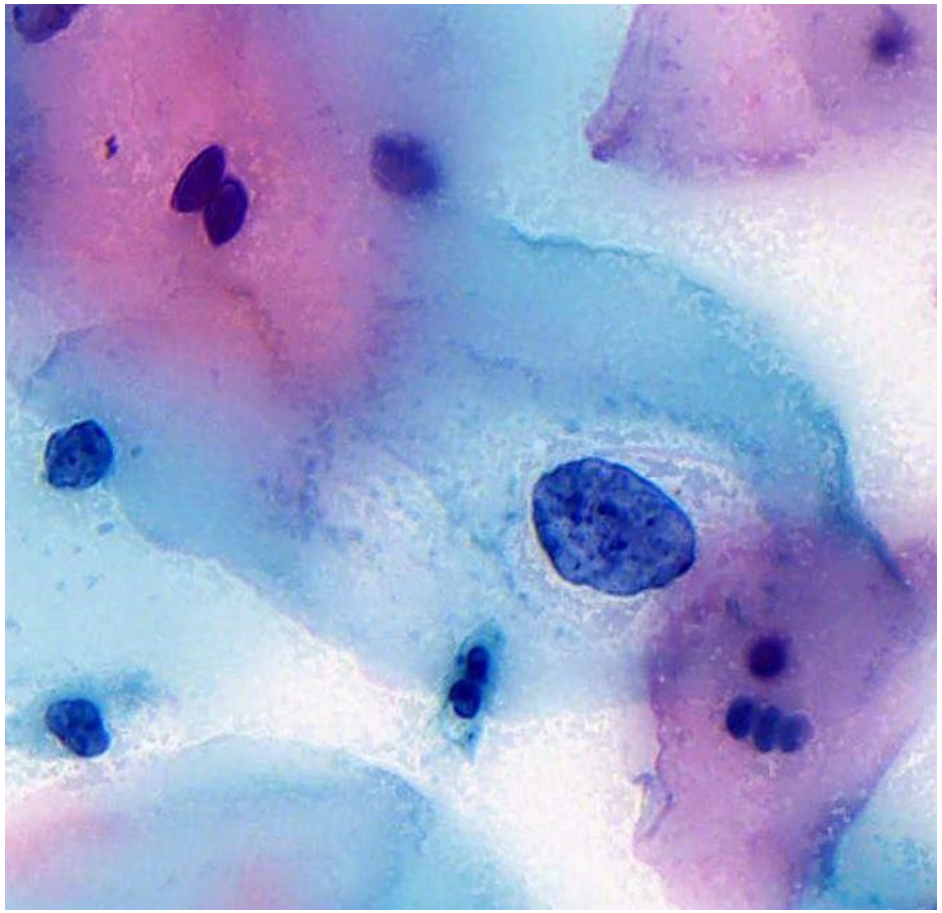
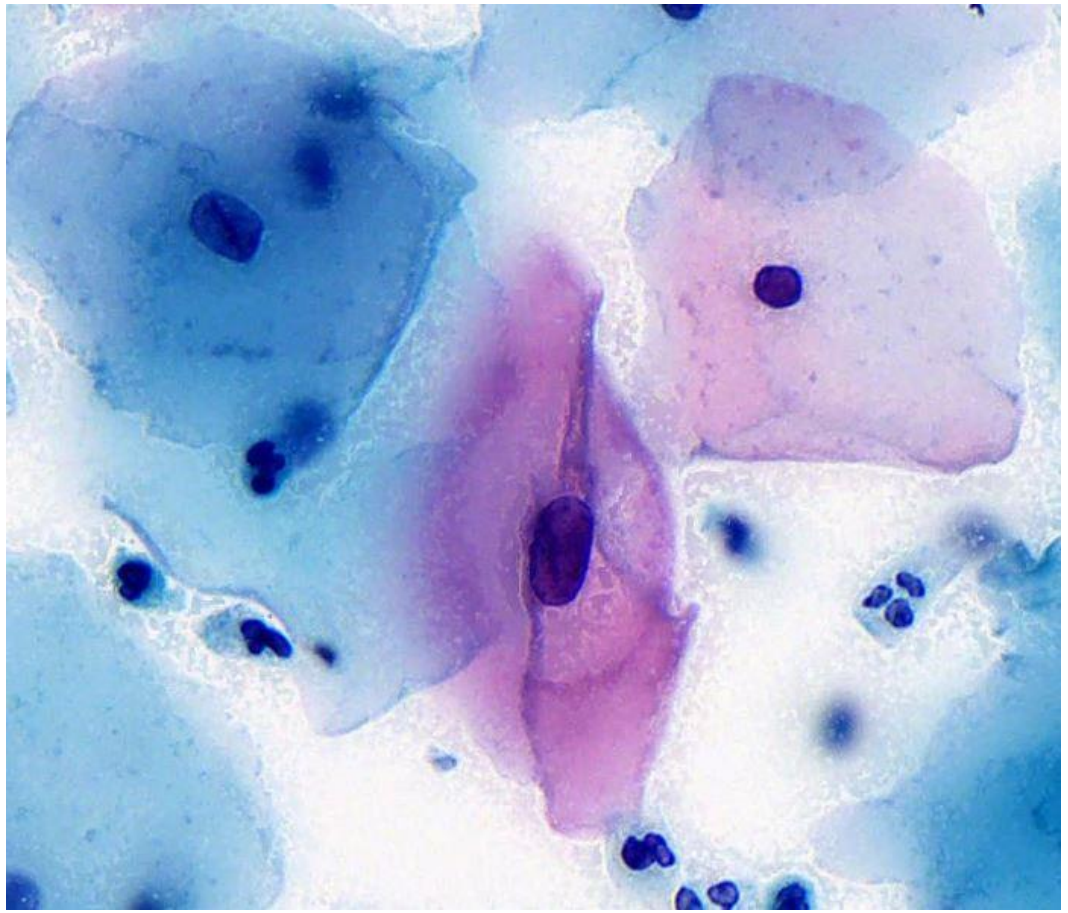
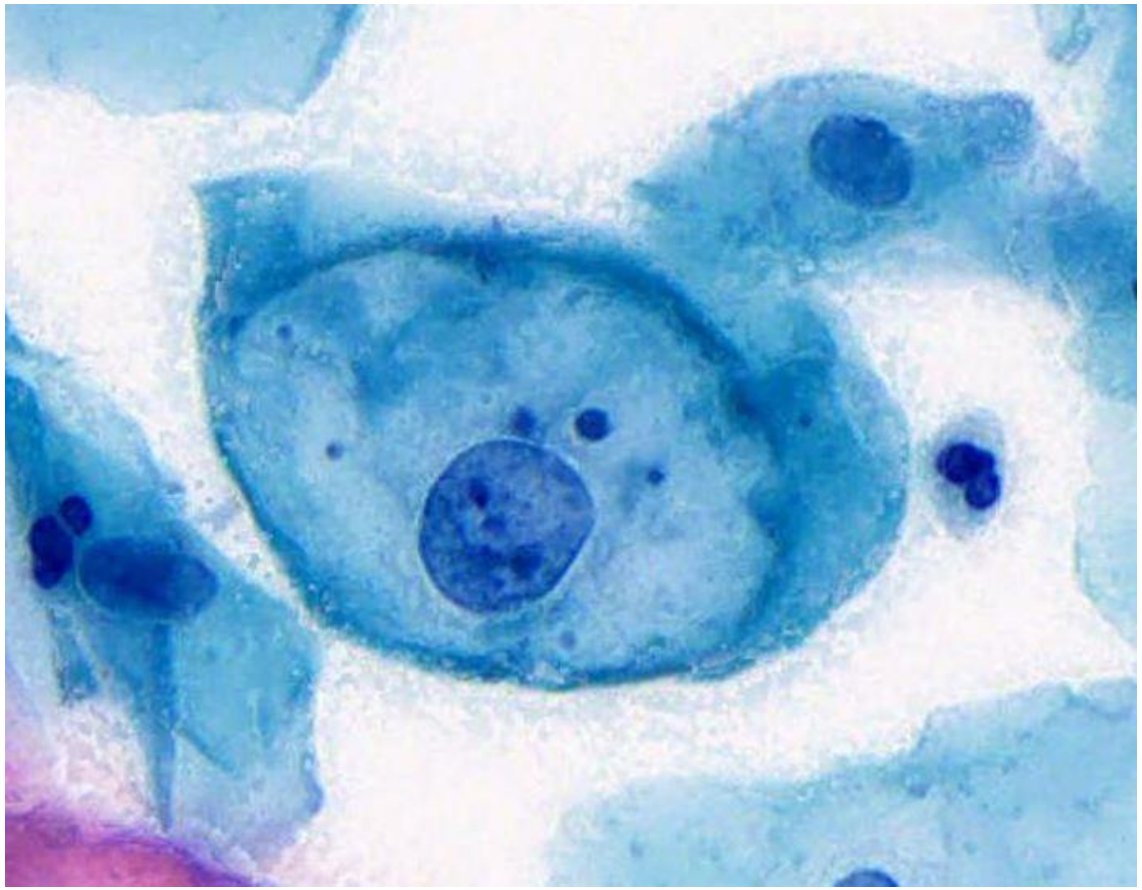
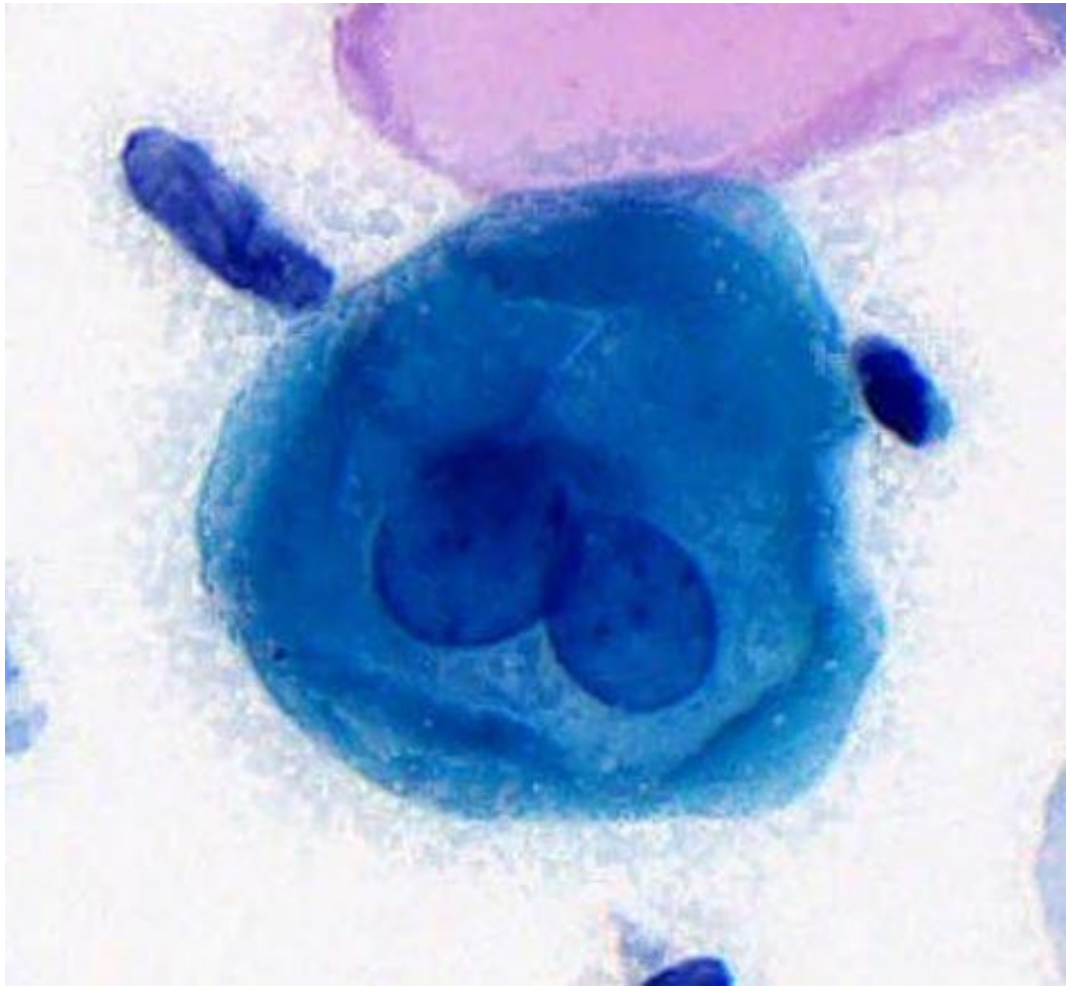


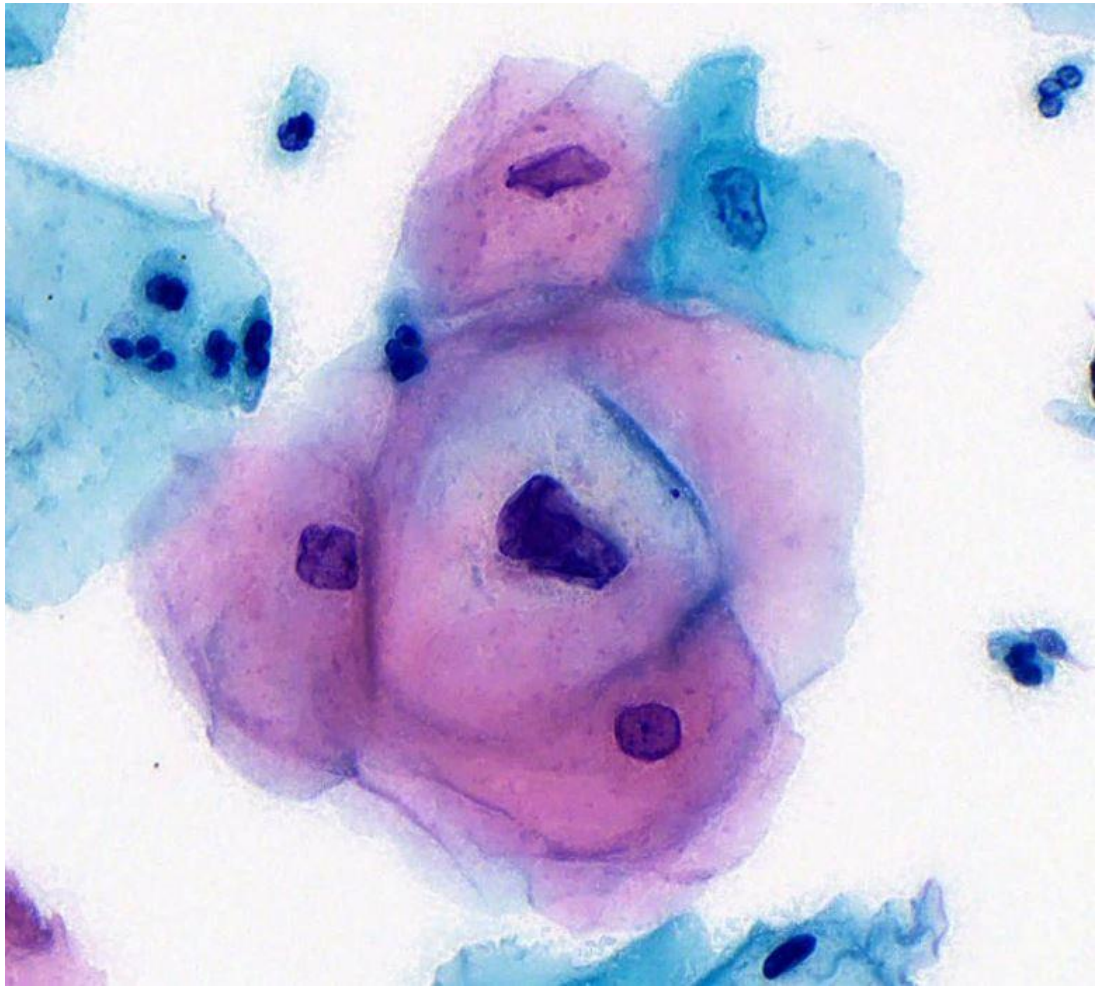


LSIL #1 – koilocytic halos

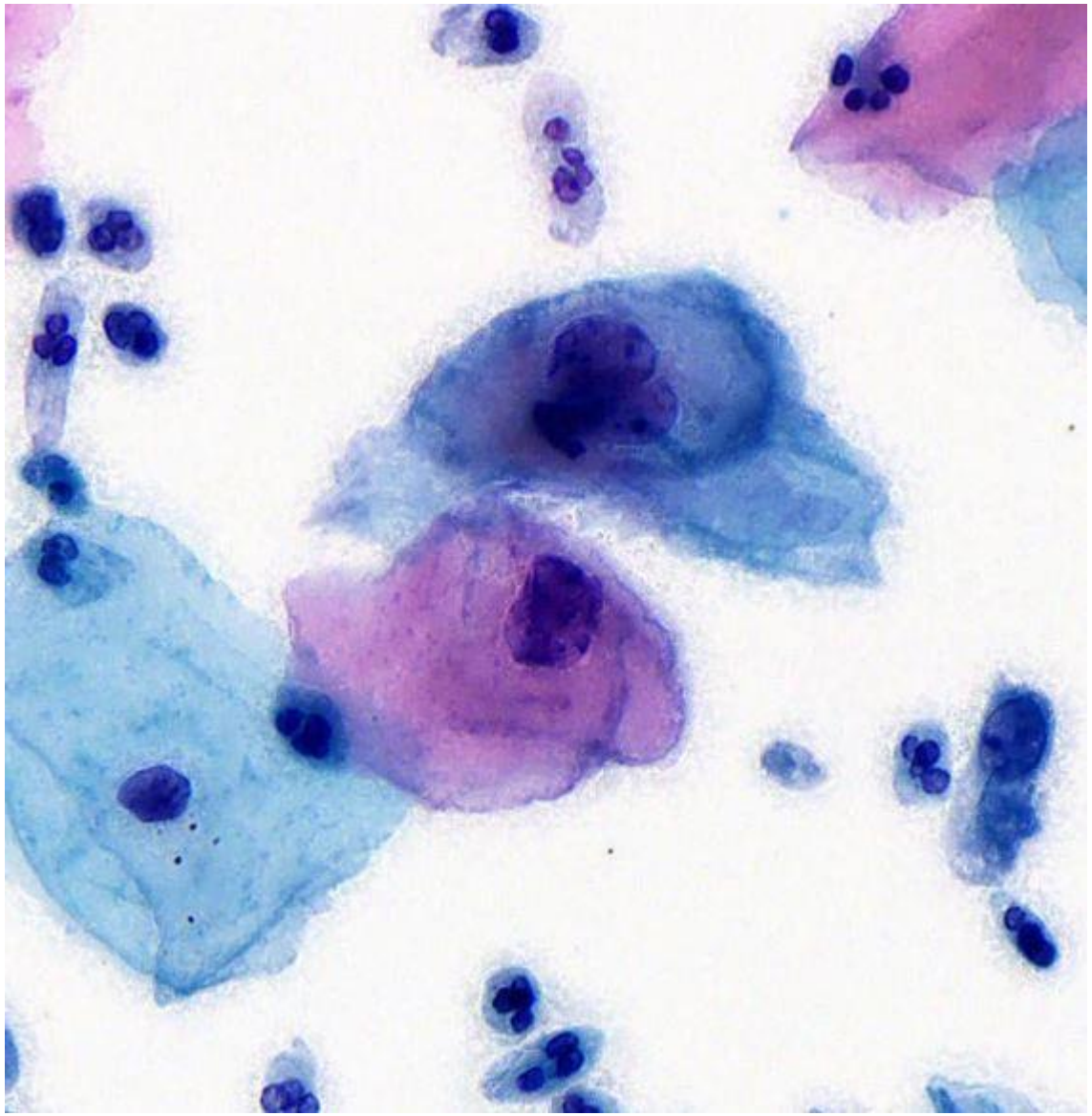


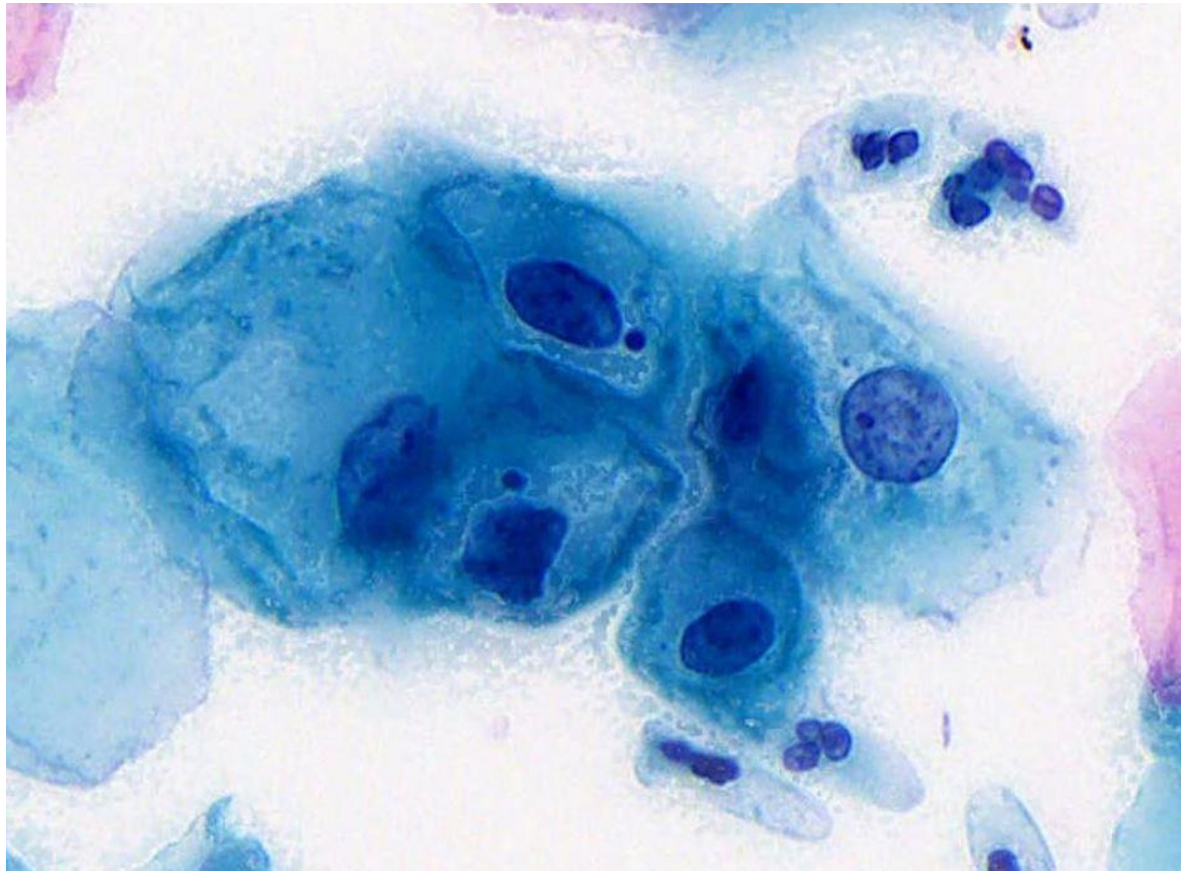
LSIL #1 - multinucleation



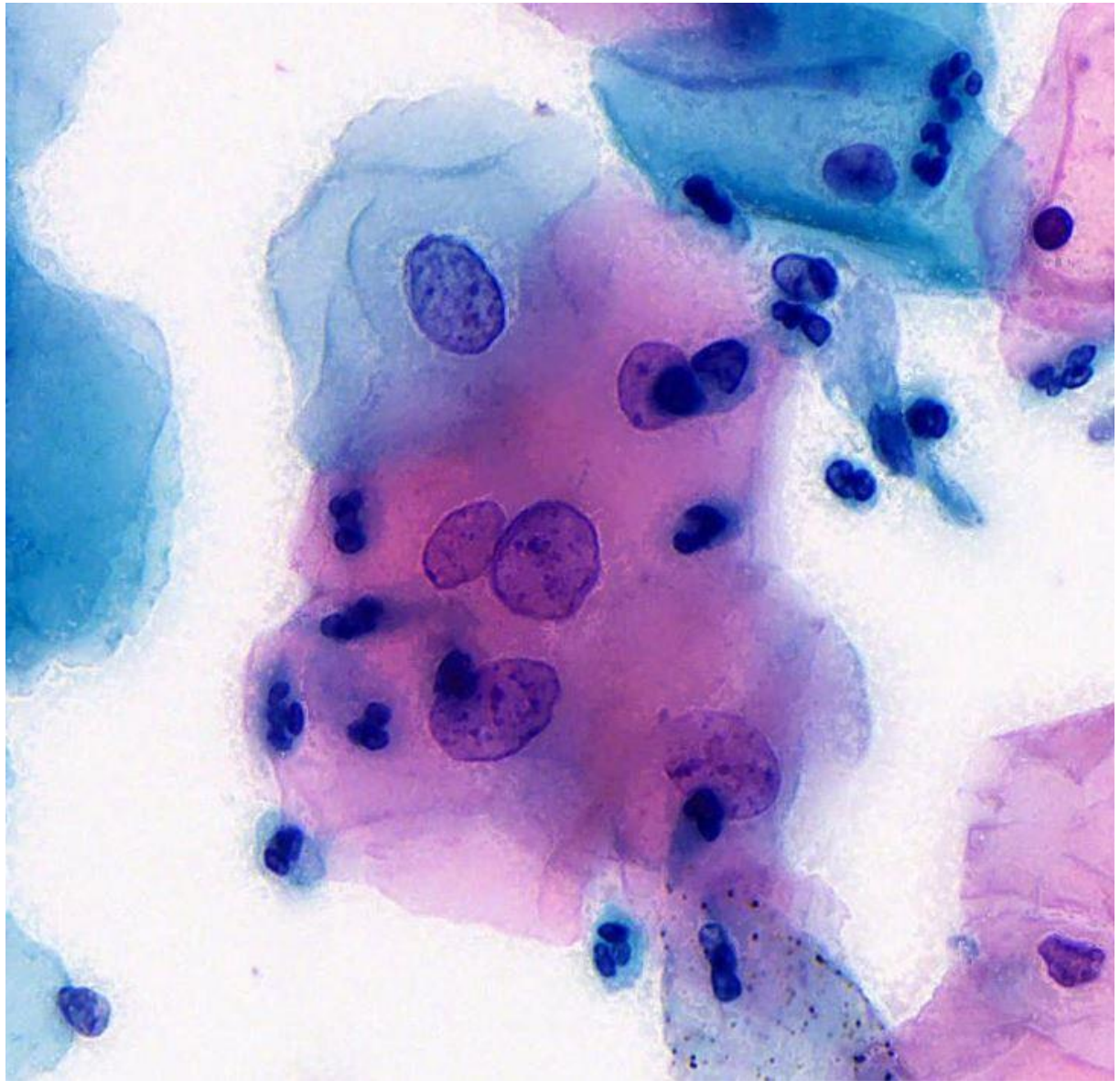


LSIL #1 – irregular nuclear contours





LSIL #1 – irregular nuclear contours



LSIL #2 - koilocytes

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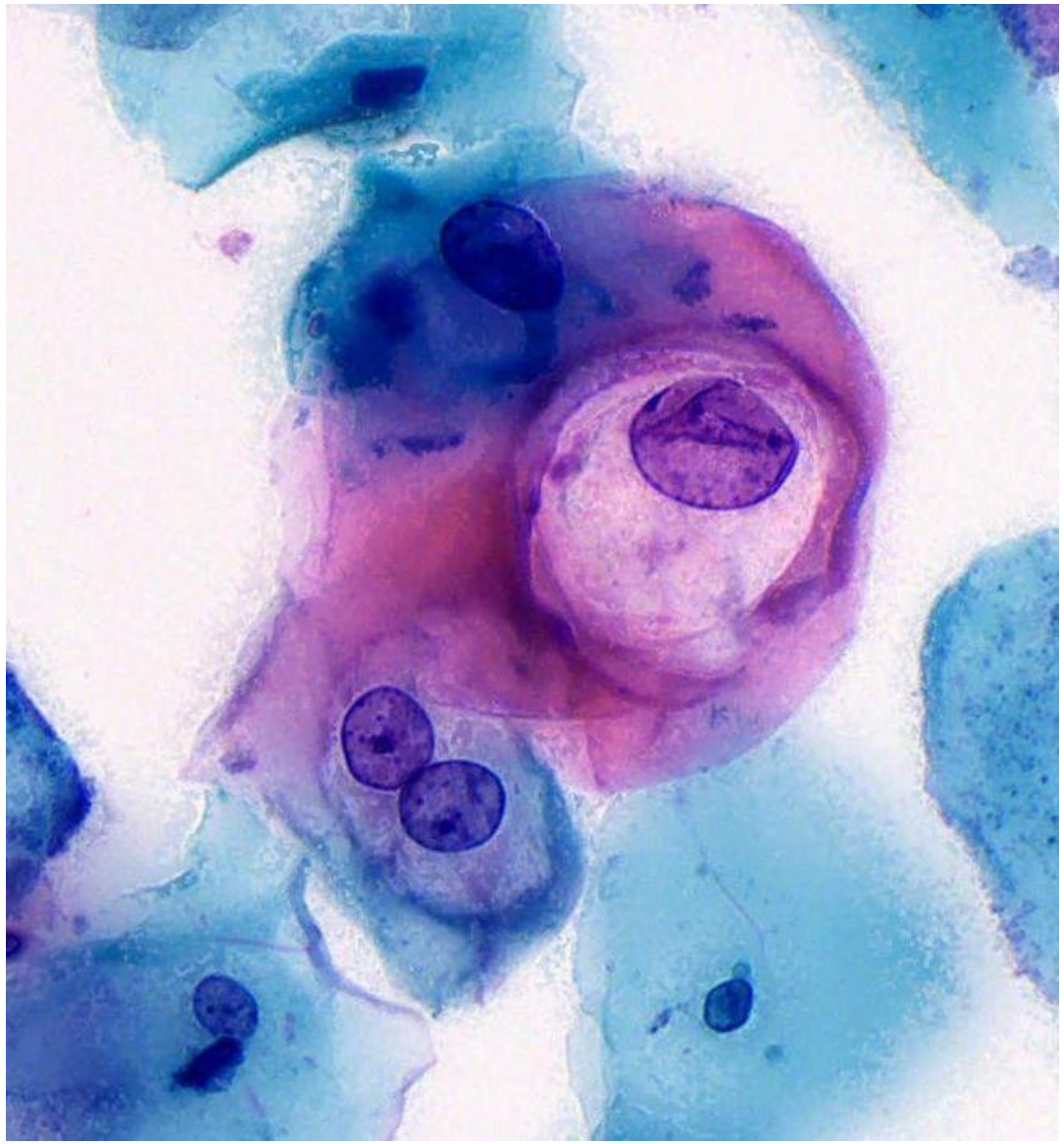
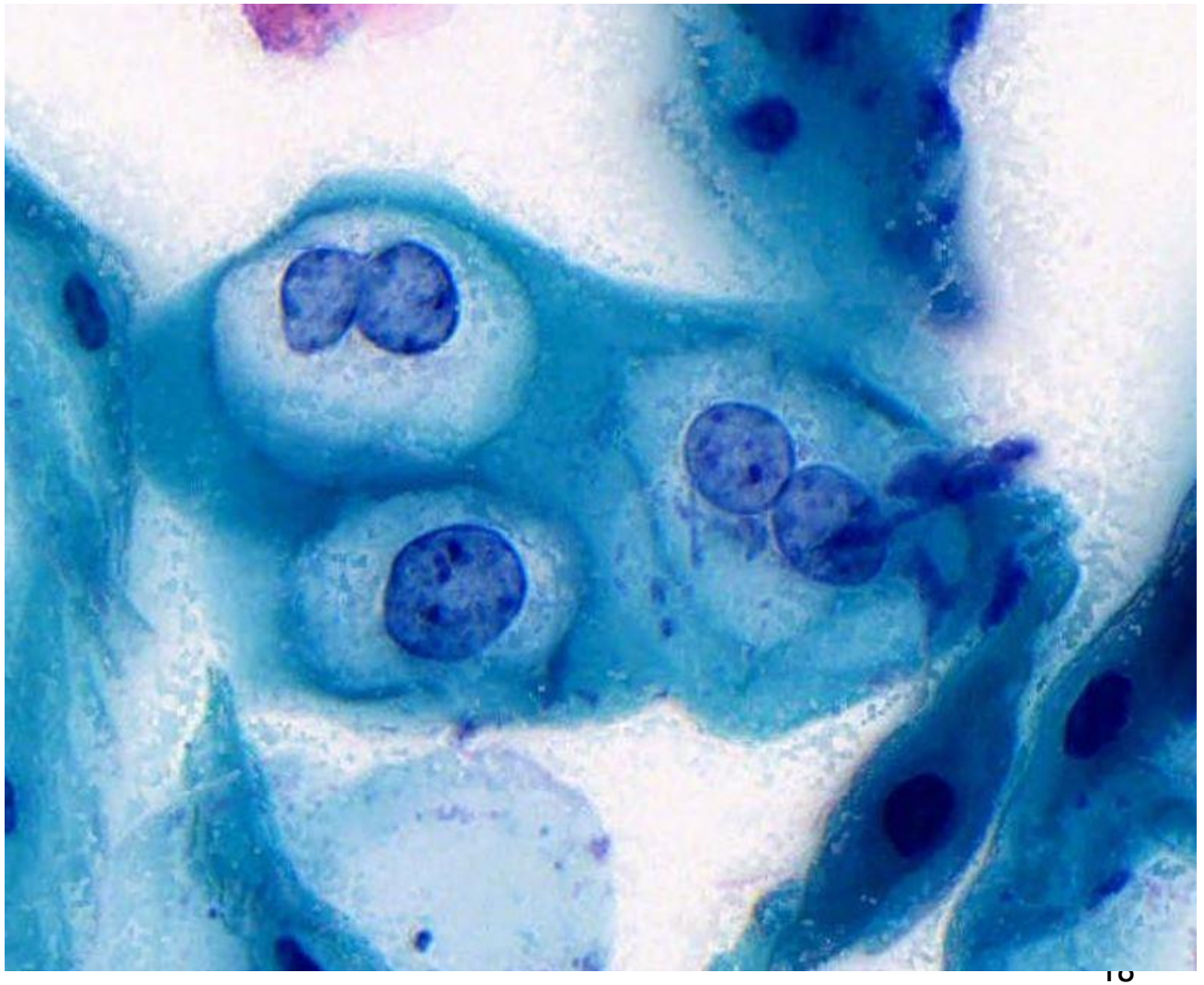
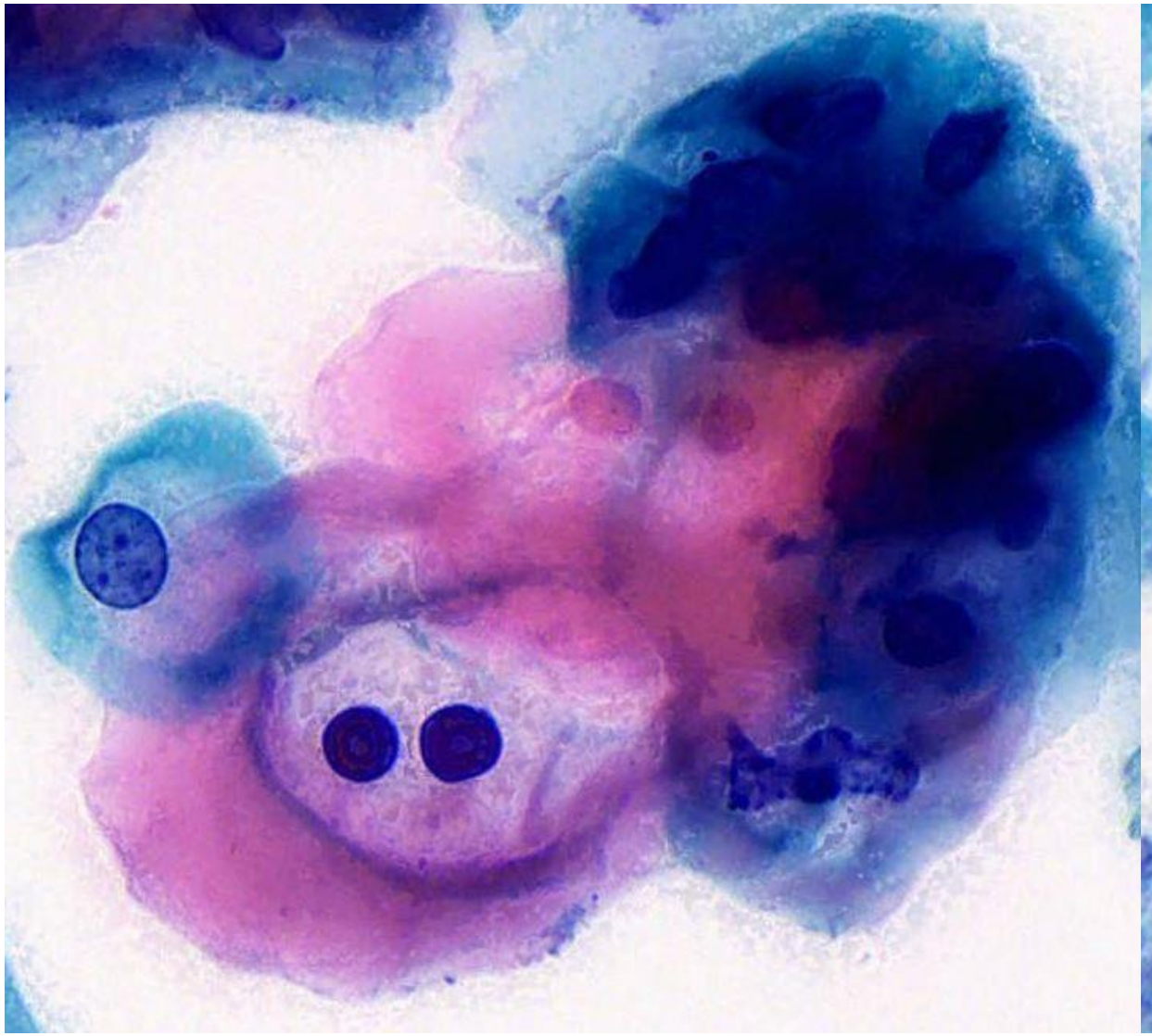
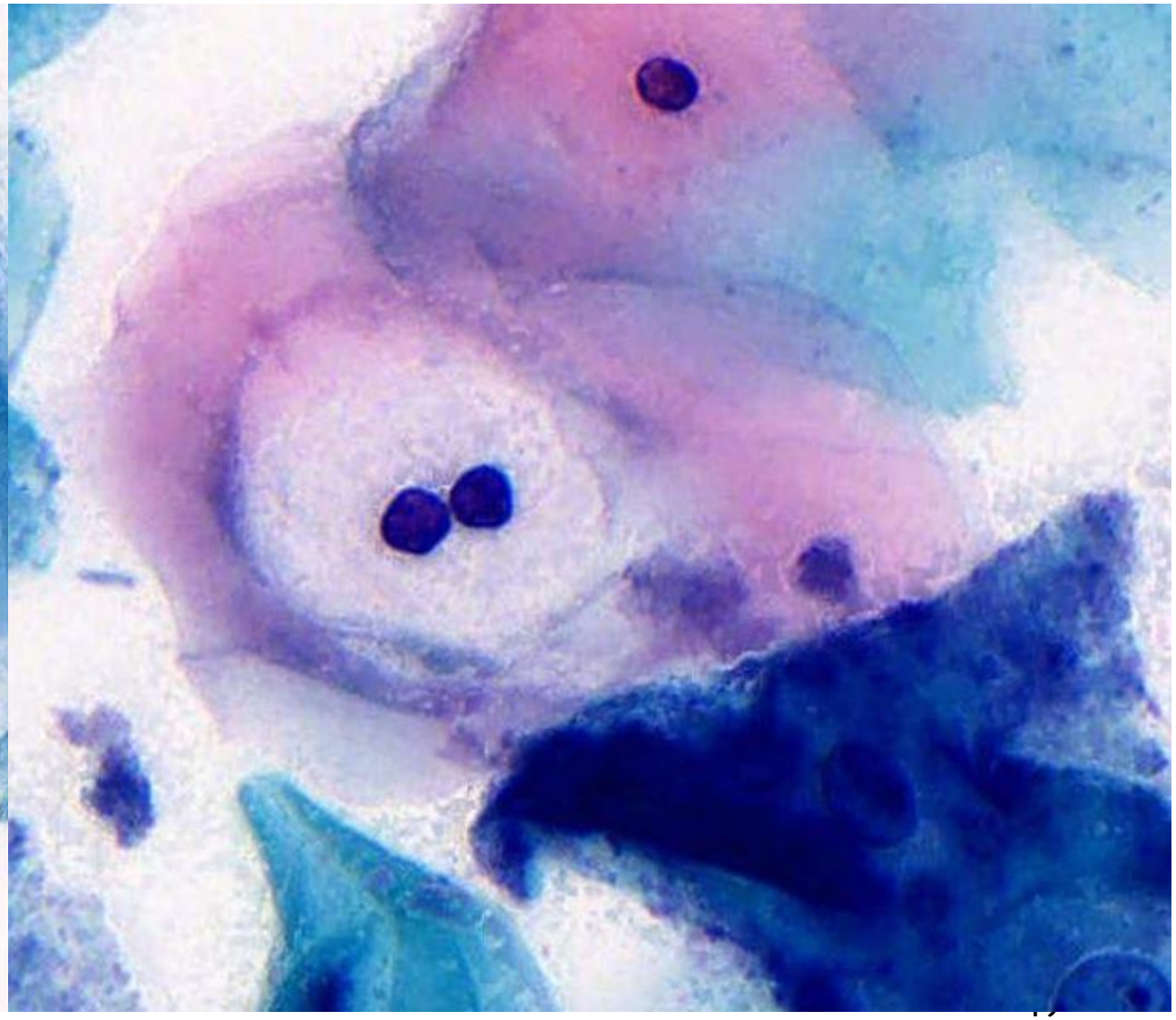




LSIL #2 - koilocytes





LSIL #2 - koilocytes

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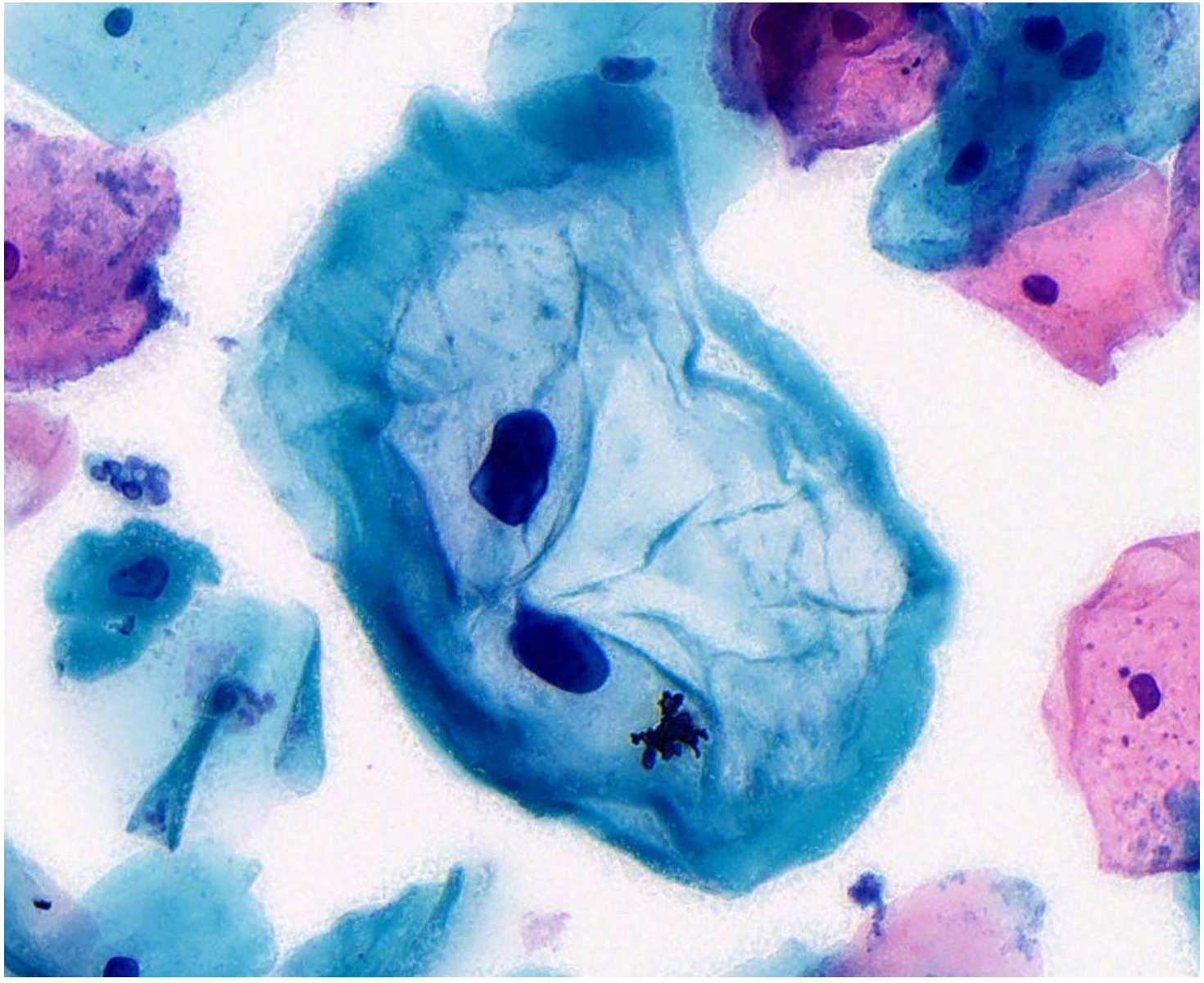
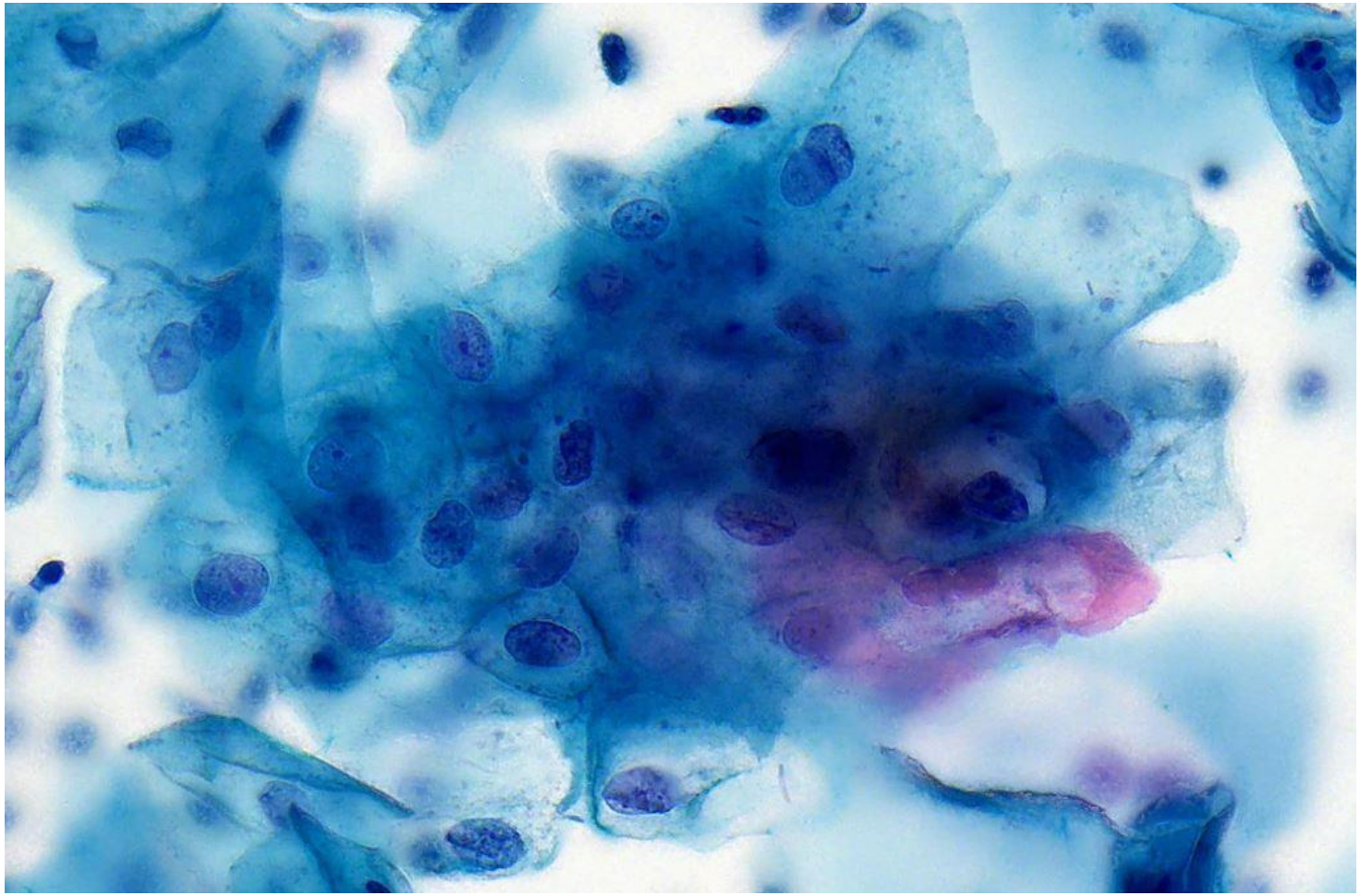
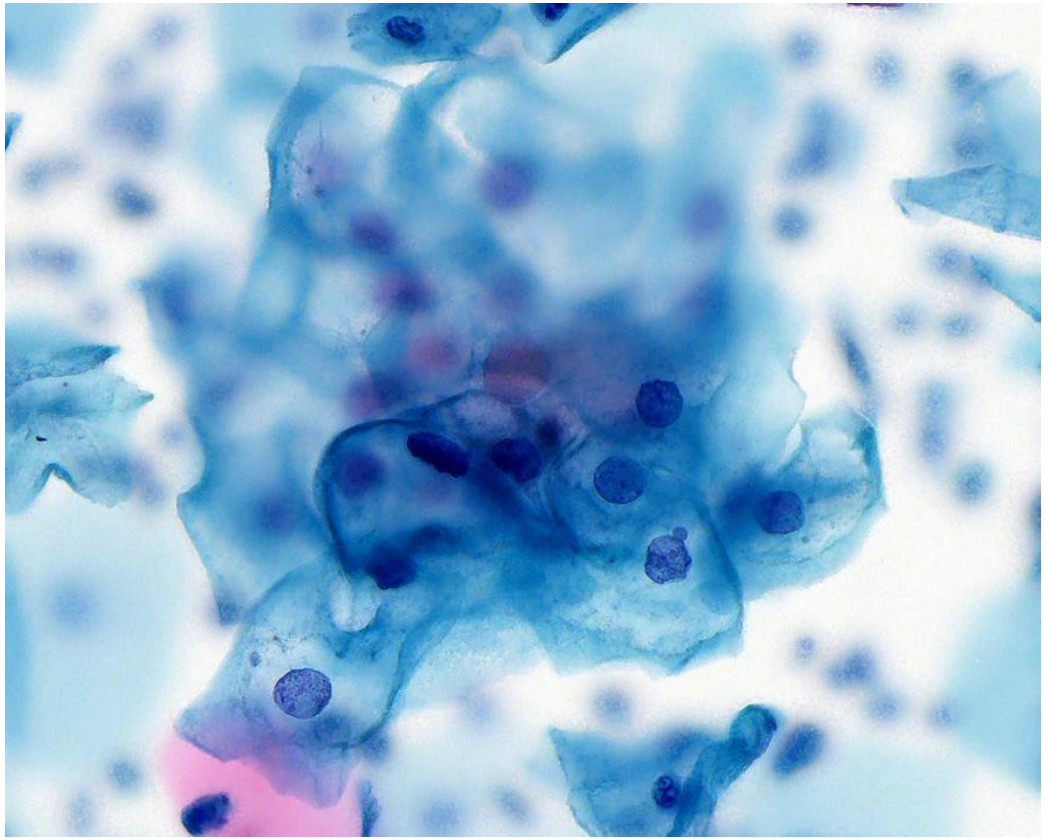


LSIL #3 – 3D groups





LSIL #3 – 3D groups

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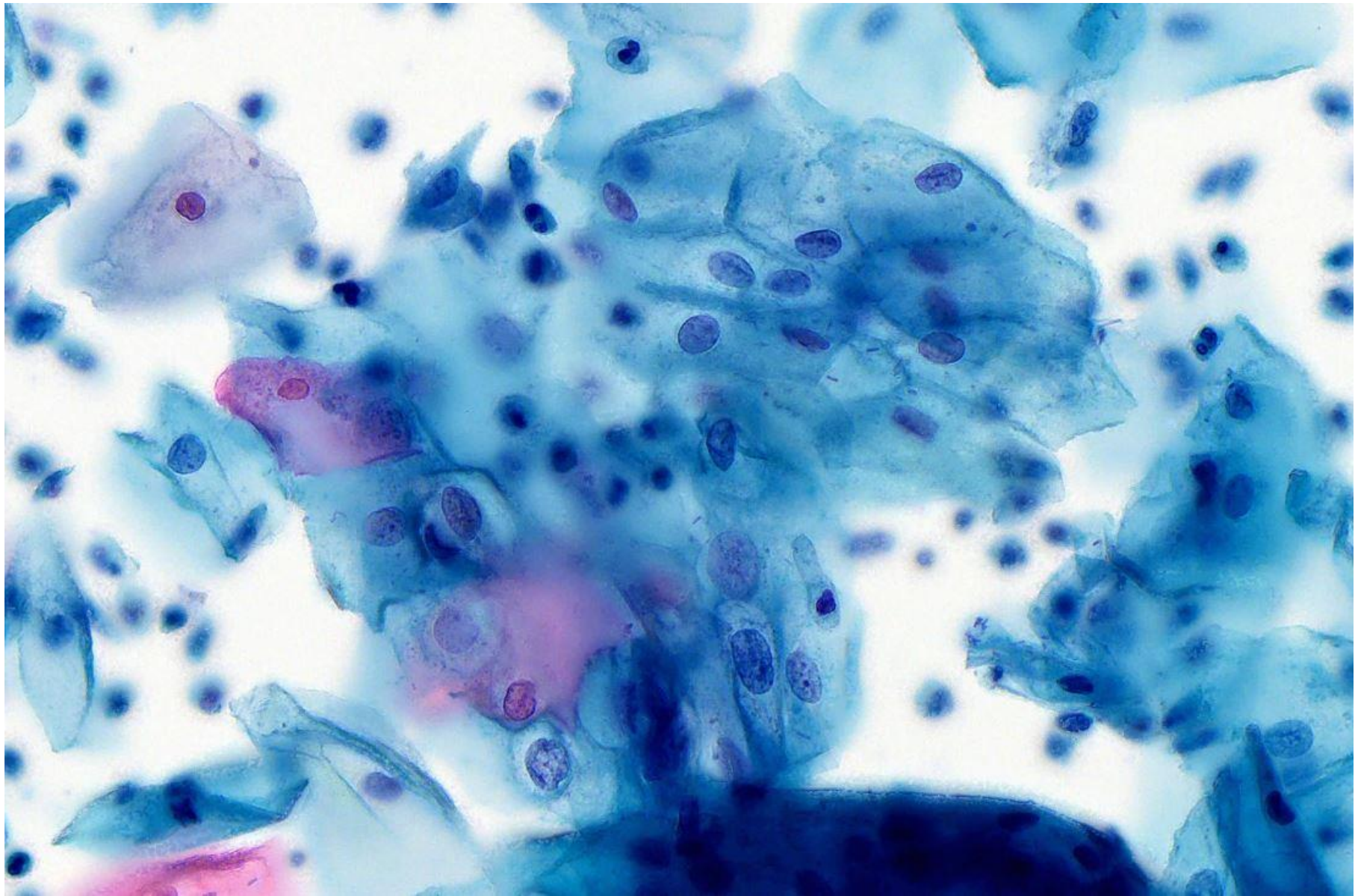
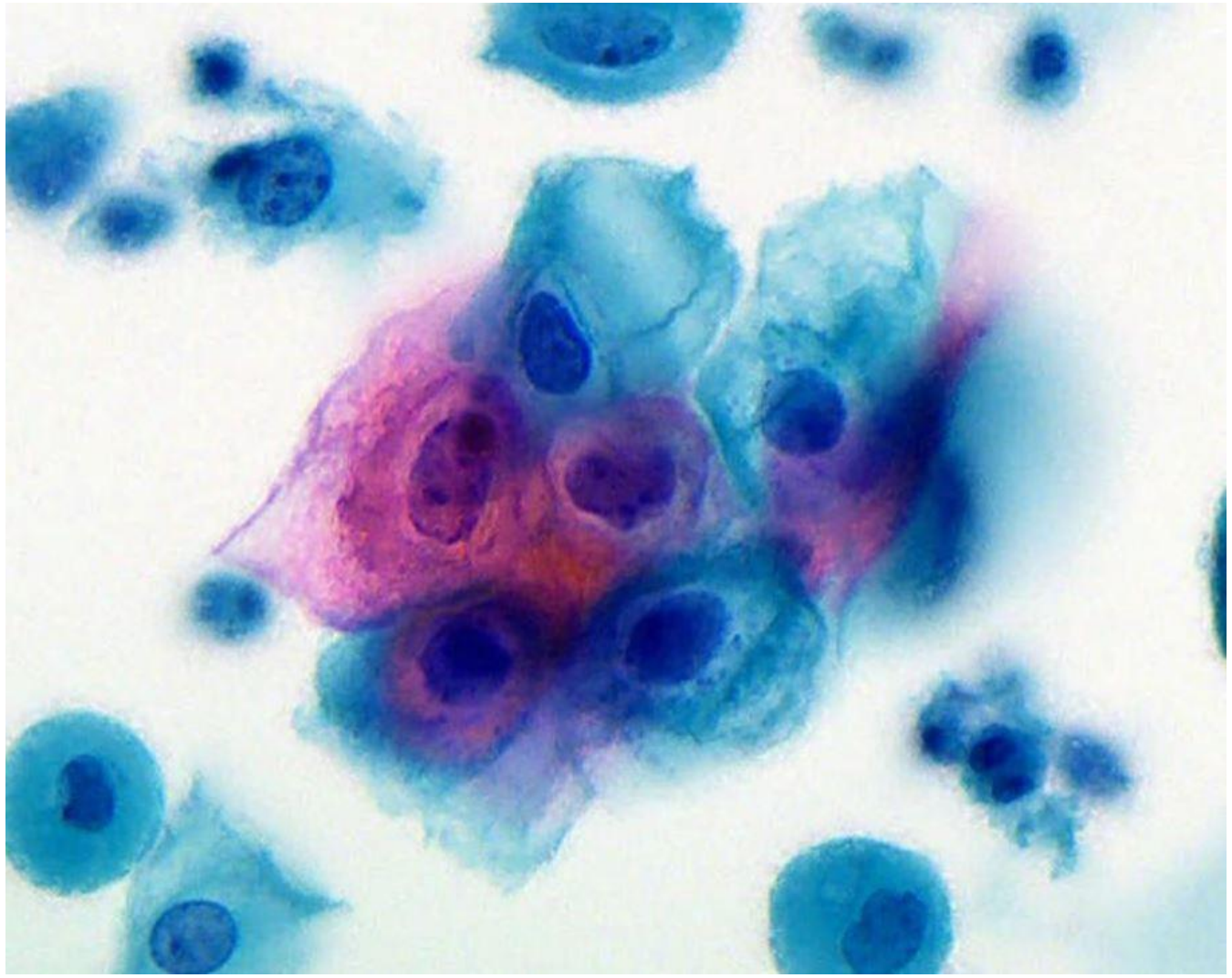
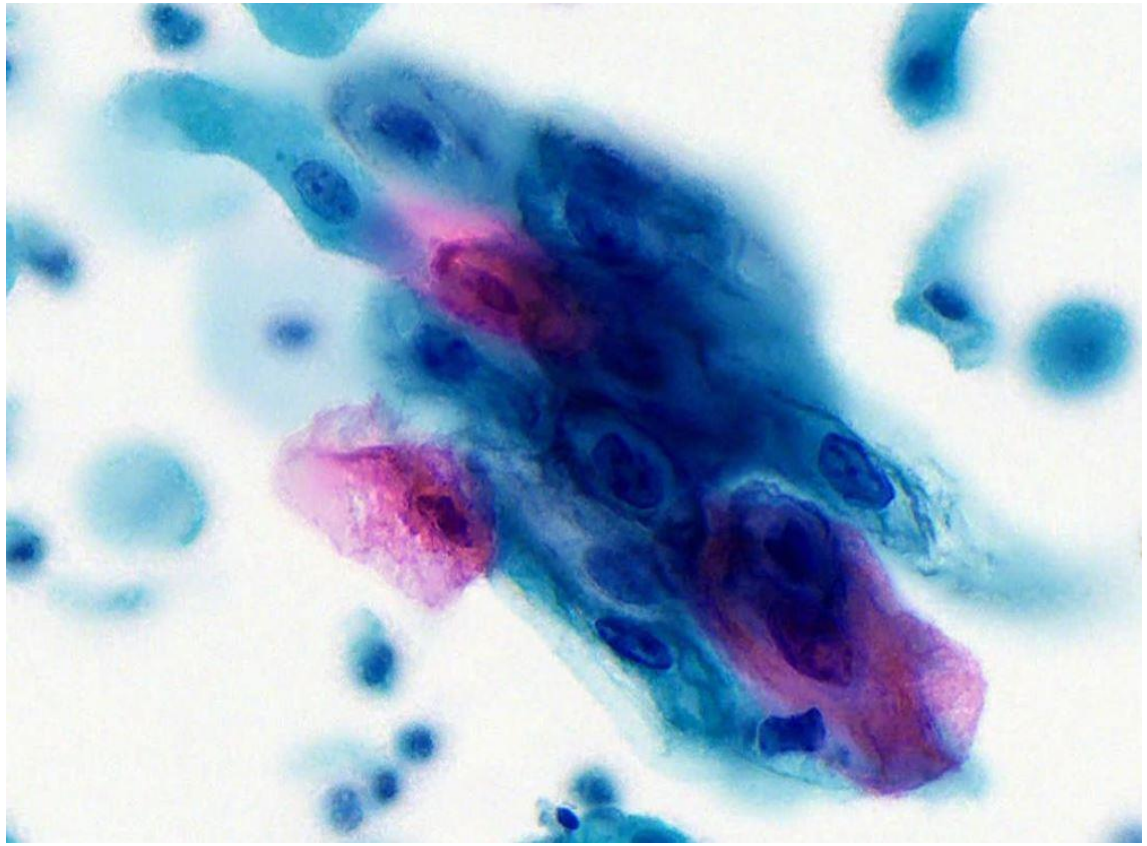


LSIL #4 – keratinizing





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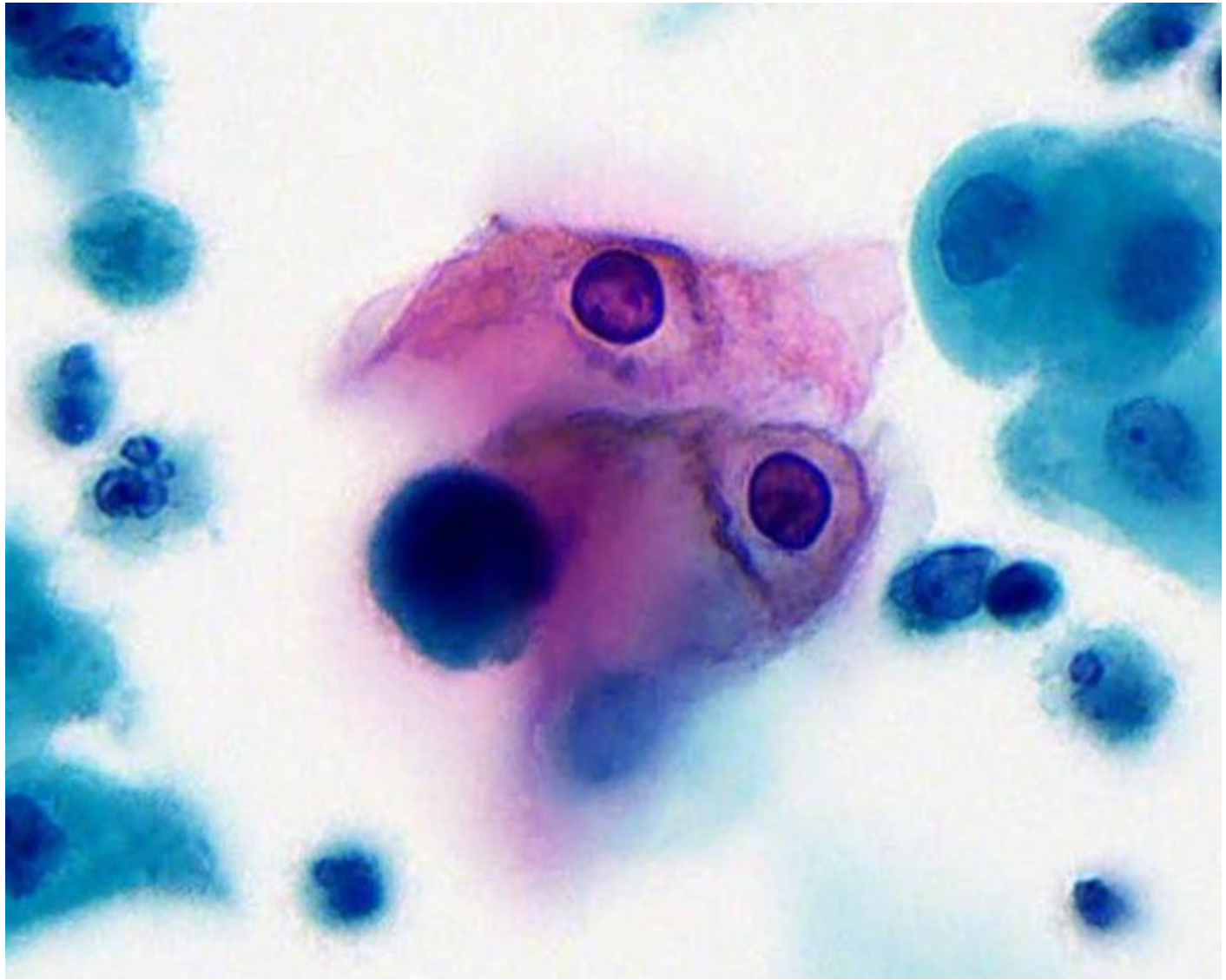

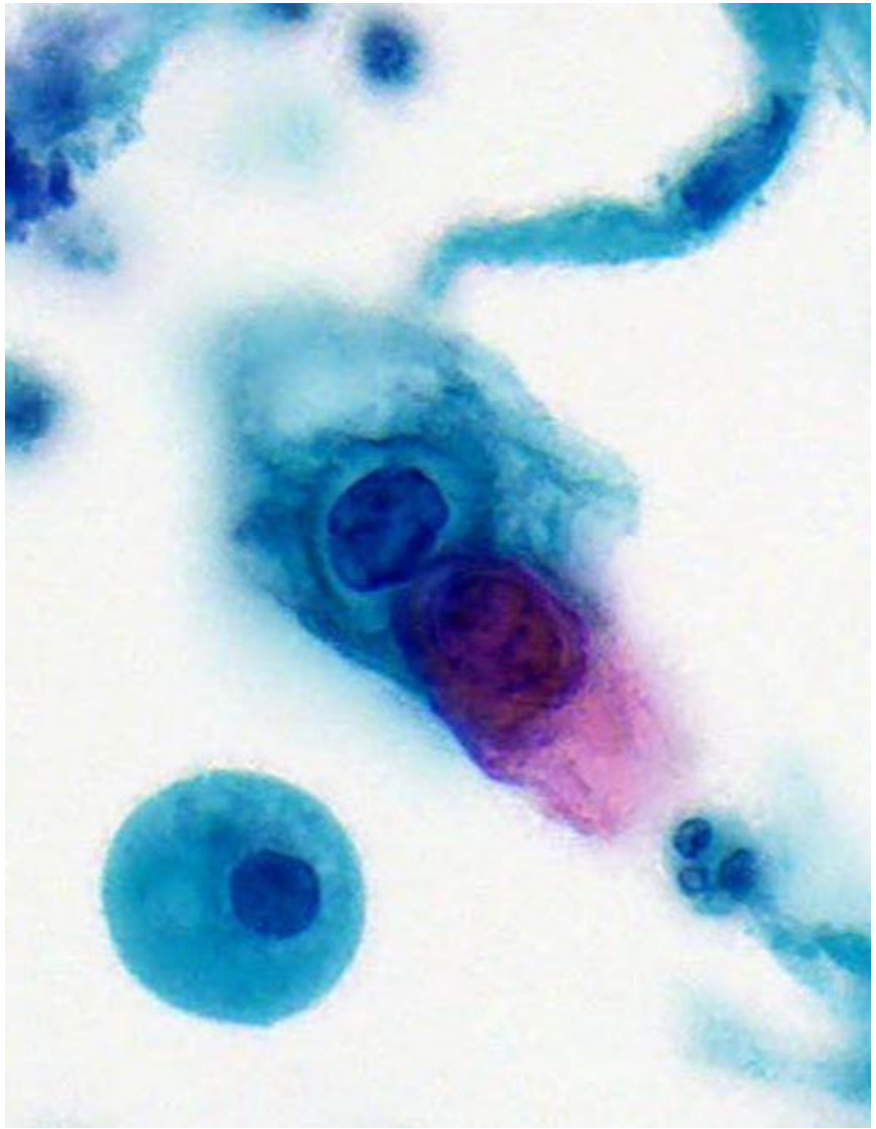

LSIL #4 – keratinizing

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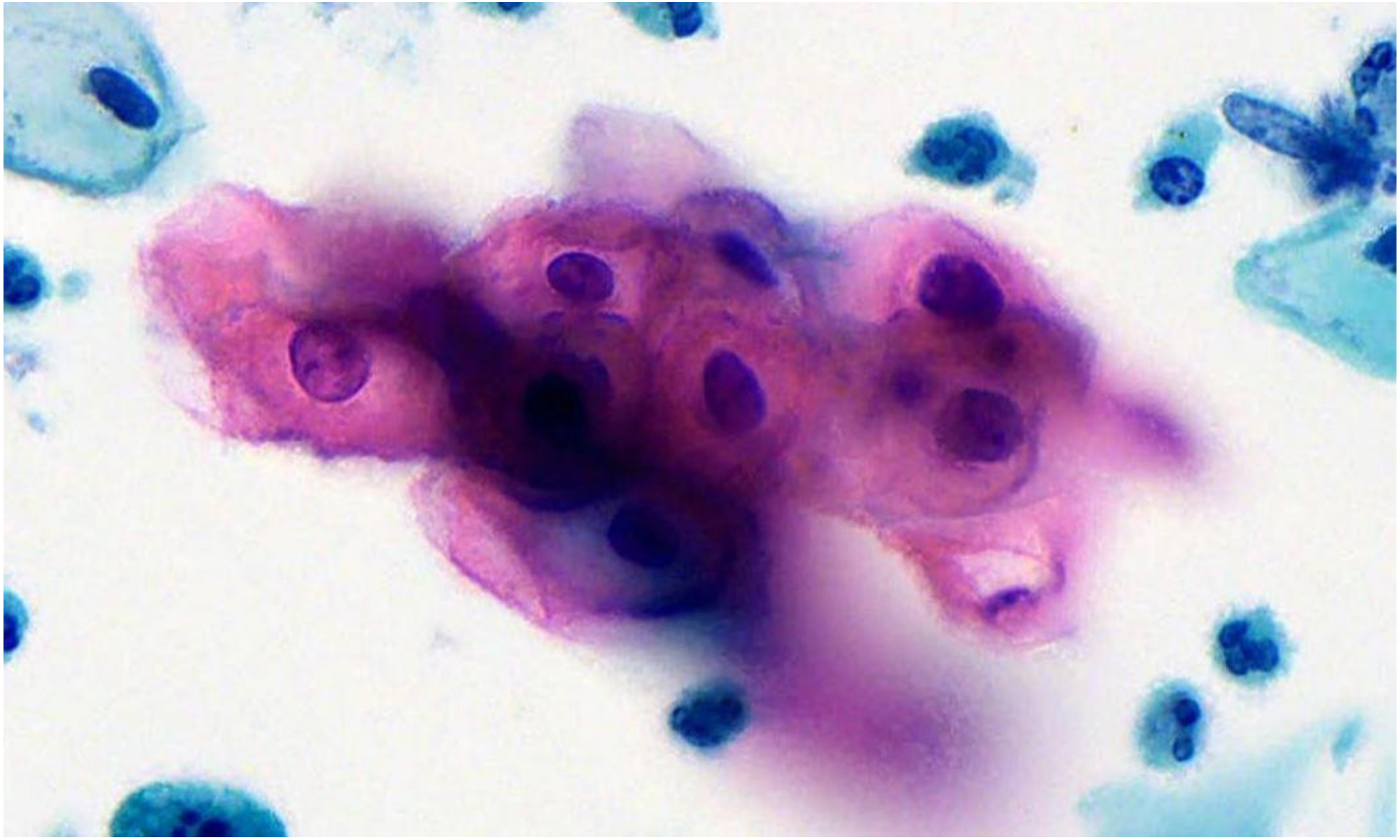

ASC-US

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- The ASC-US cases from the IAC/CAP Web Atlas typically contain fewer abnormal cells
- However, the most compelling cells look similar to the images I have been showing from the LSIL cases

ASC-US #1 – nuclear enlargement

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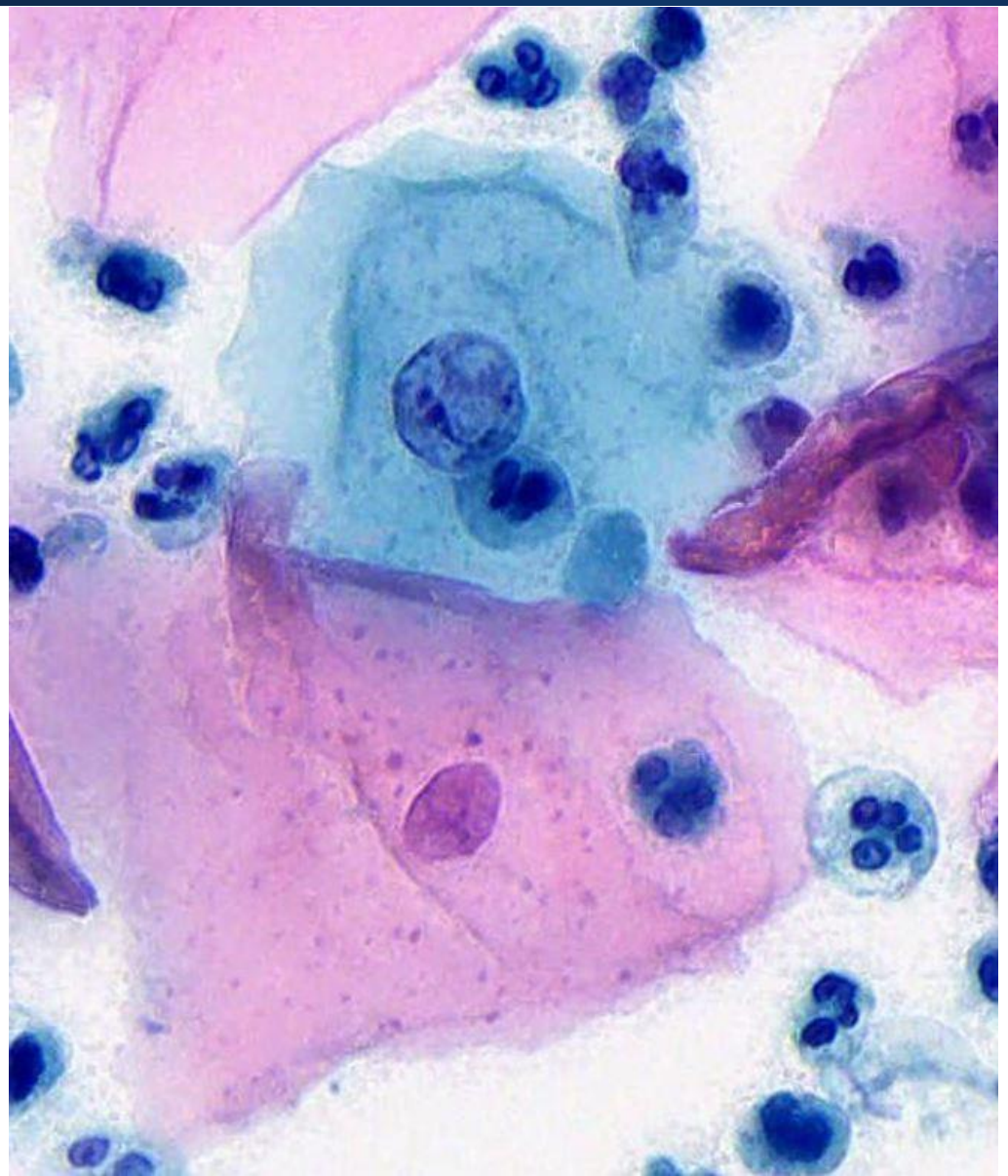

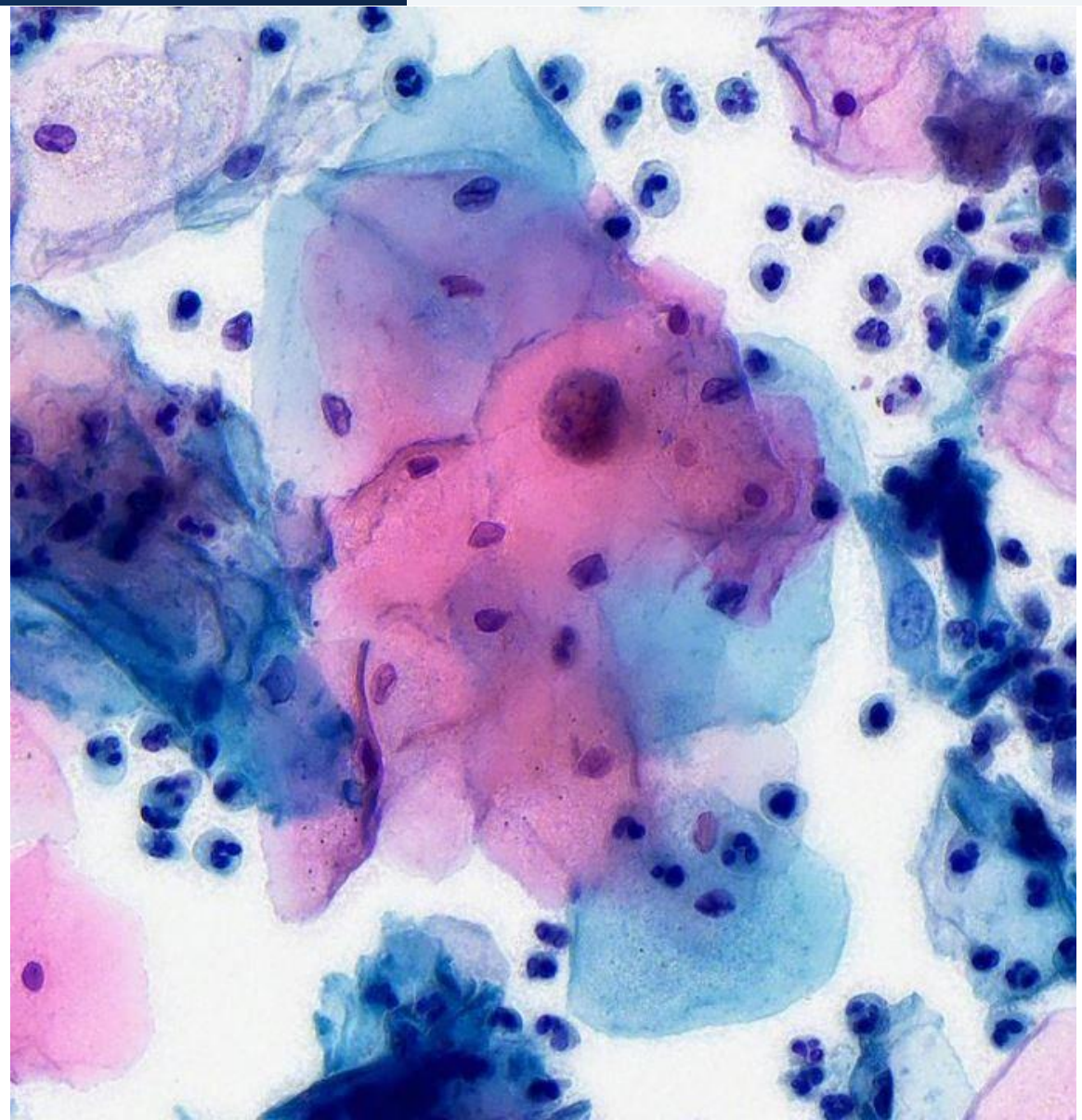

ASC-US #1 – probable koilocyte

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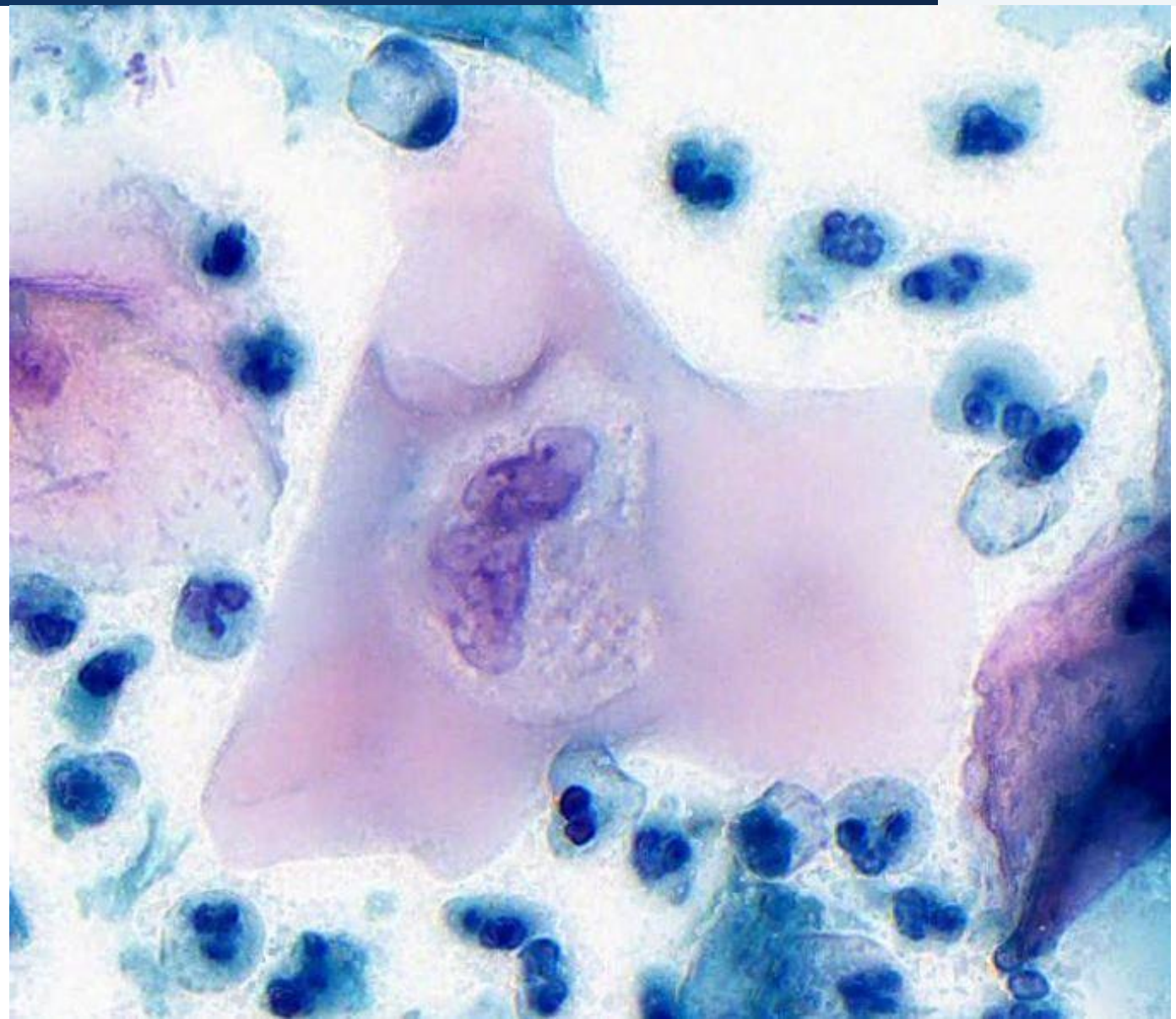

ASC-US #2 – nuclear changes

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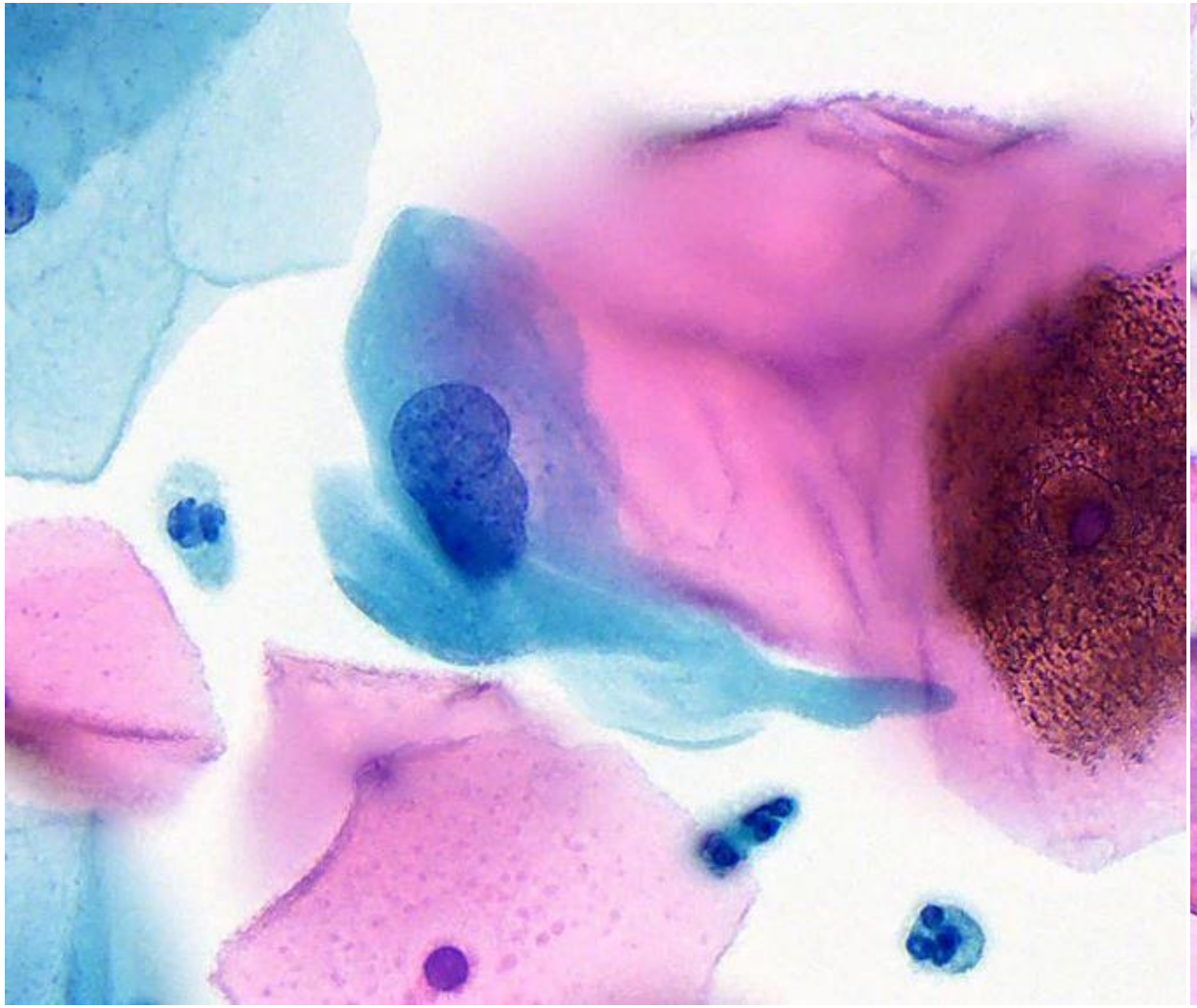

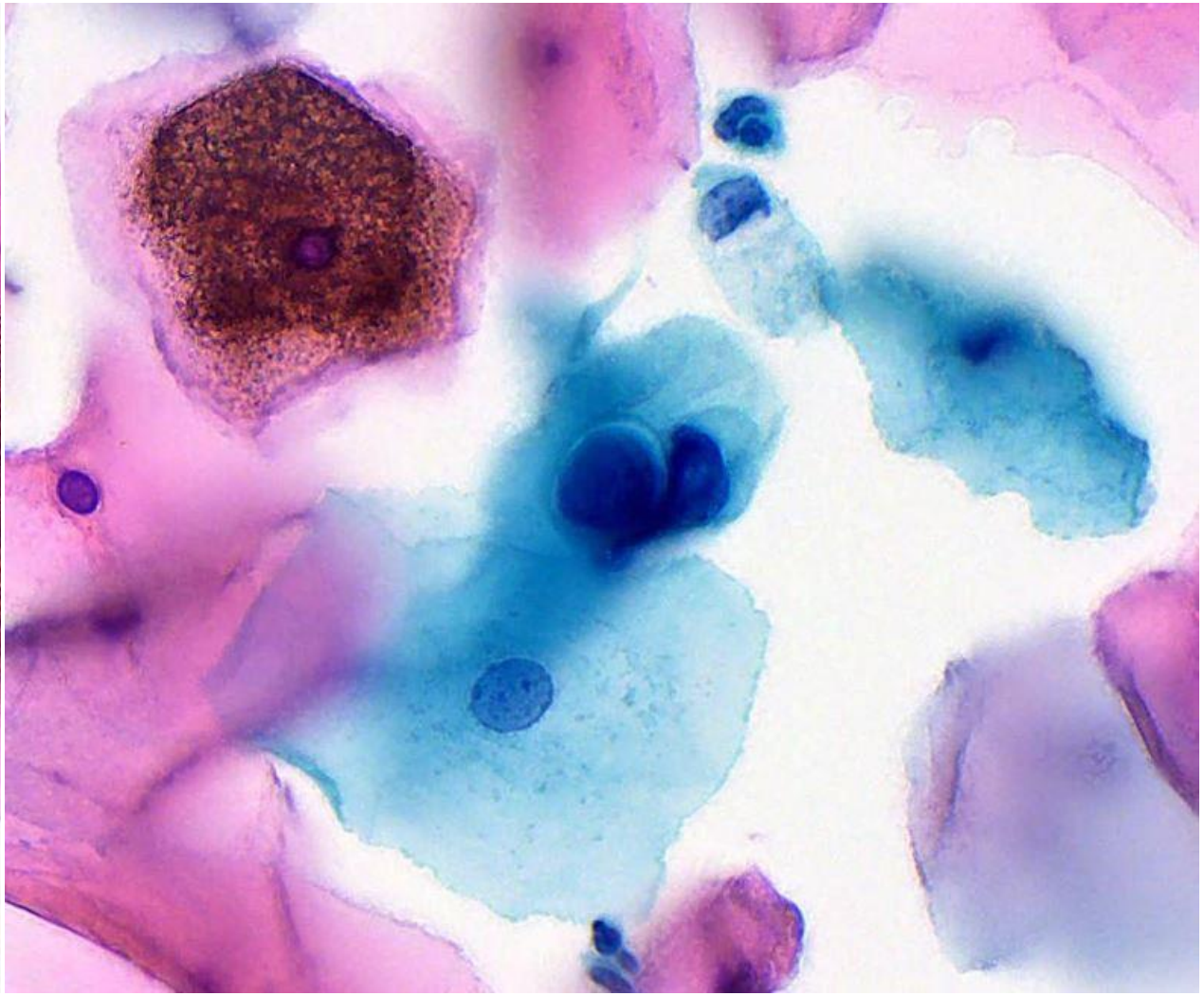

ASC-US #2 – large dark nuclei

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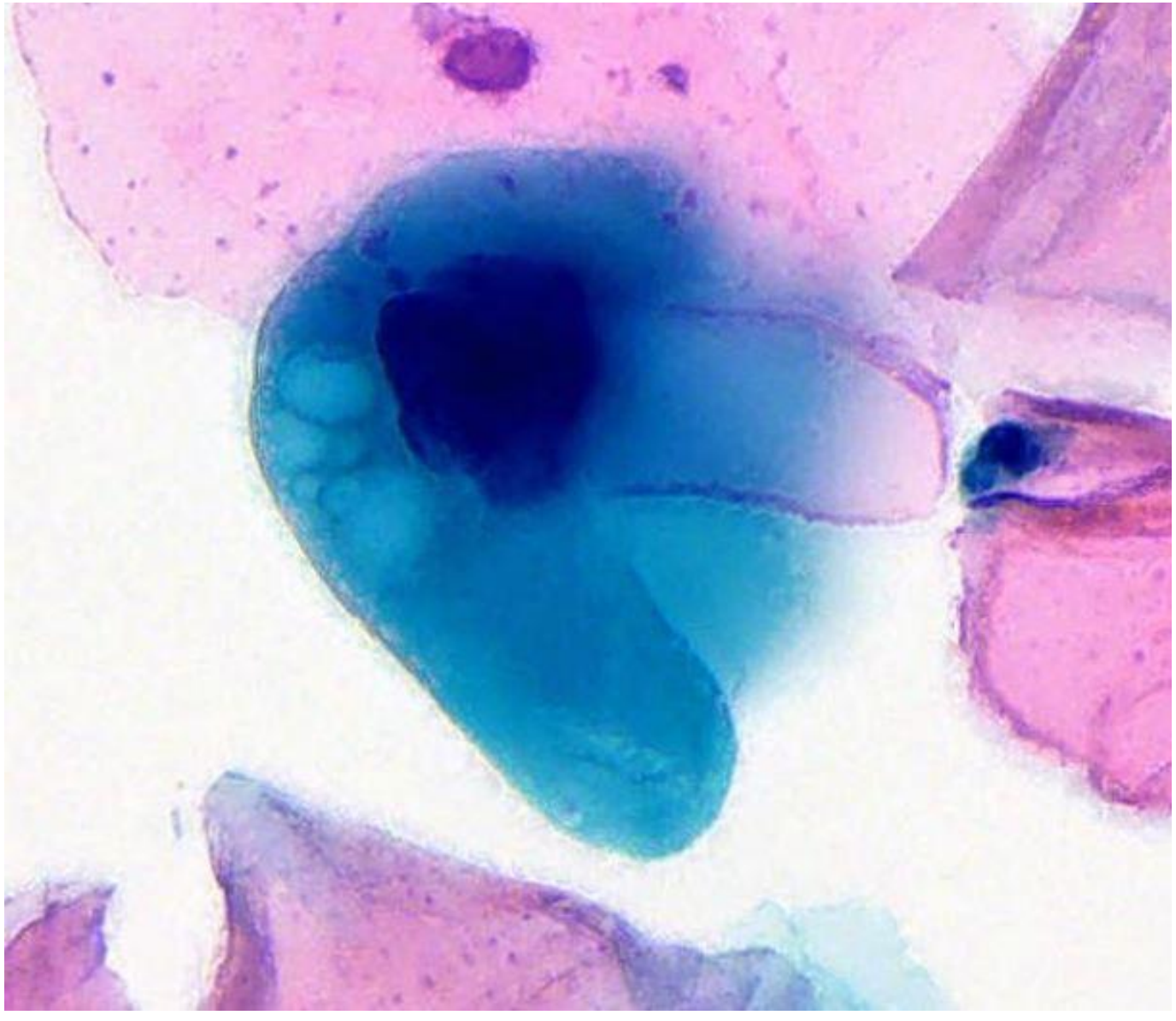

ASC-US #2 – possible halos

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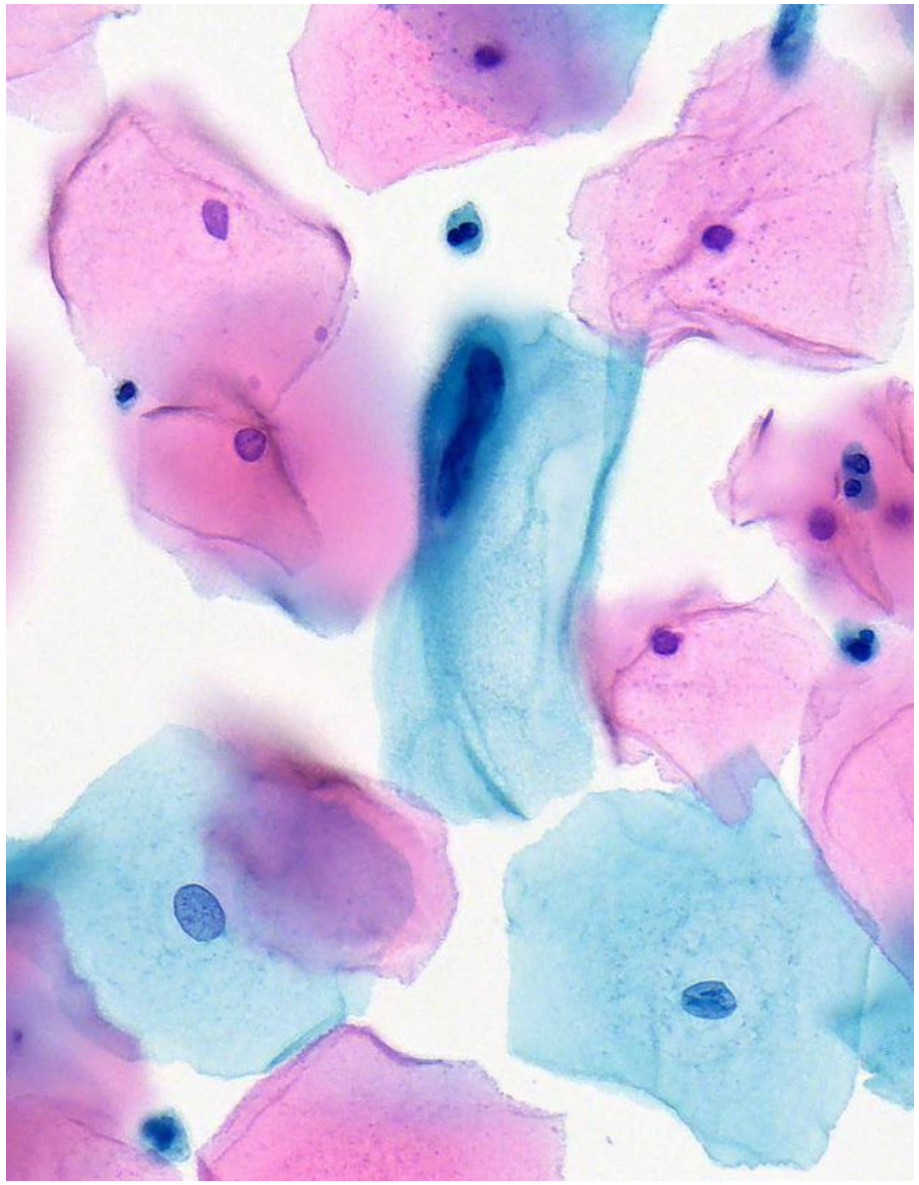

ASC-US #3 – possible halos

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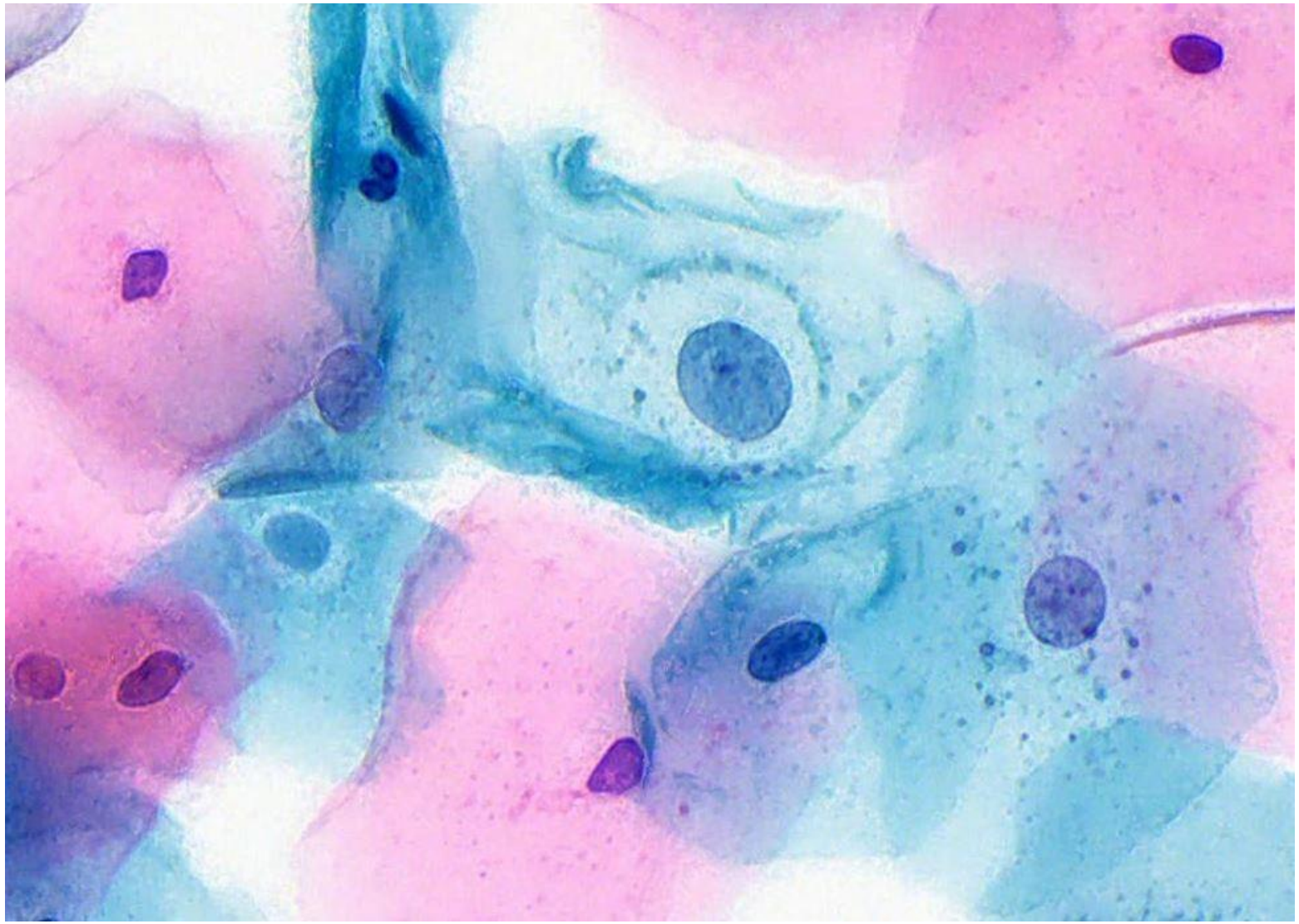

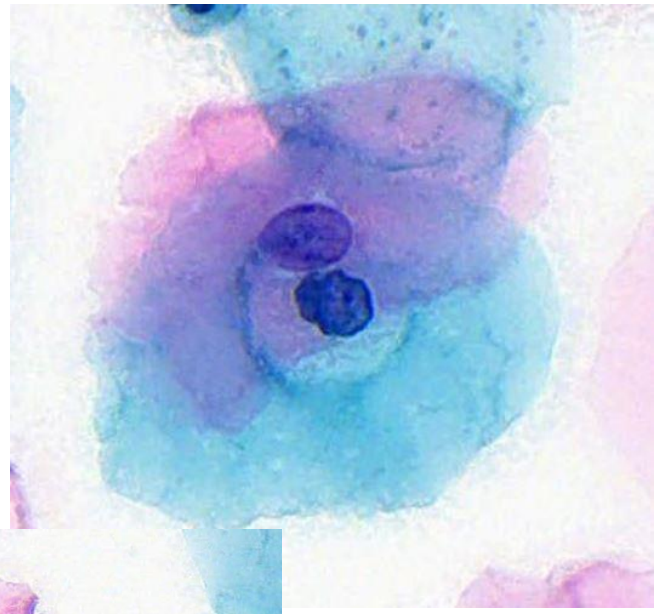

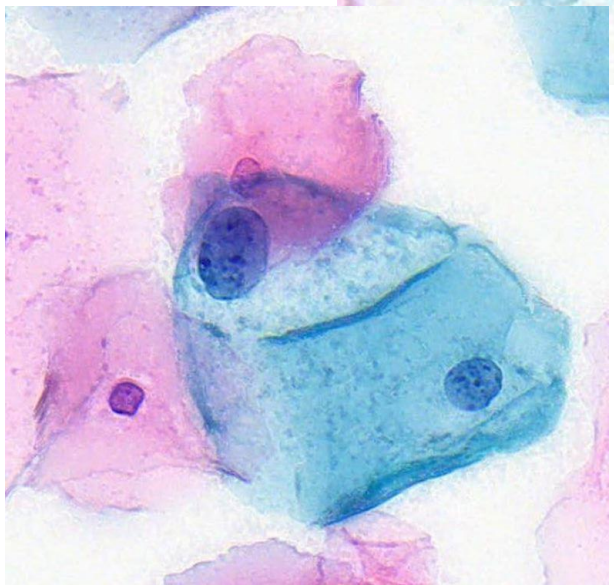

ASC-US #3 – irregular nuclei

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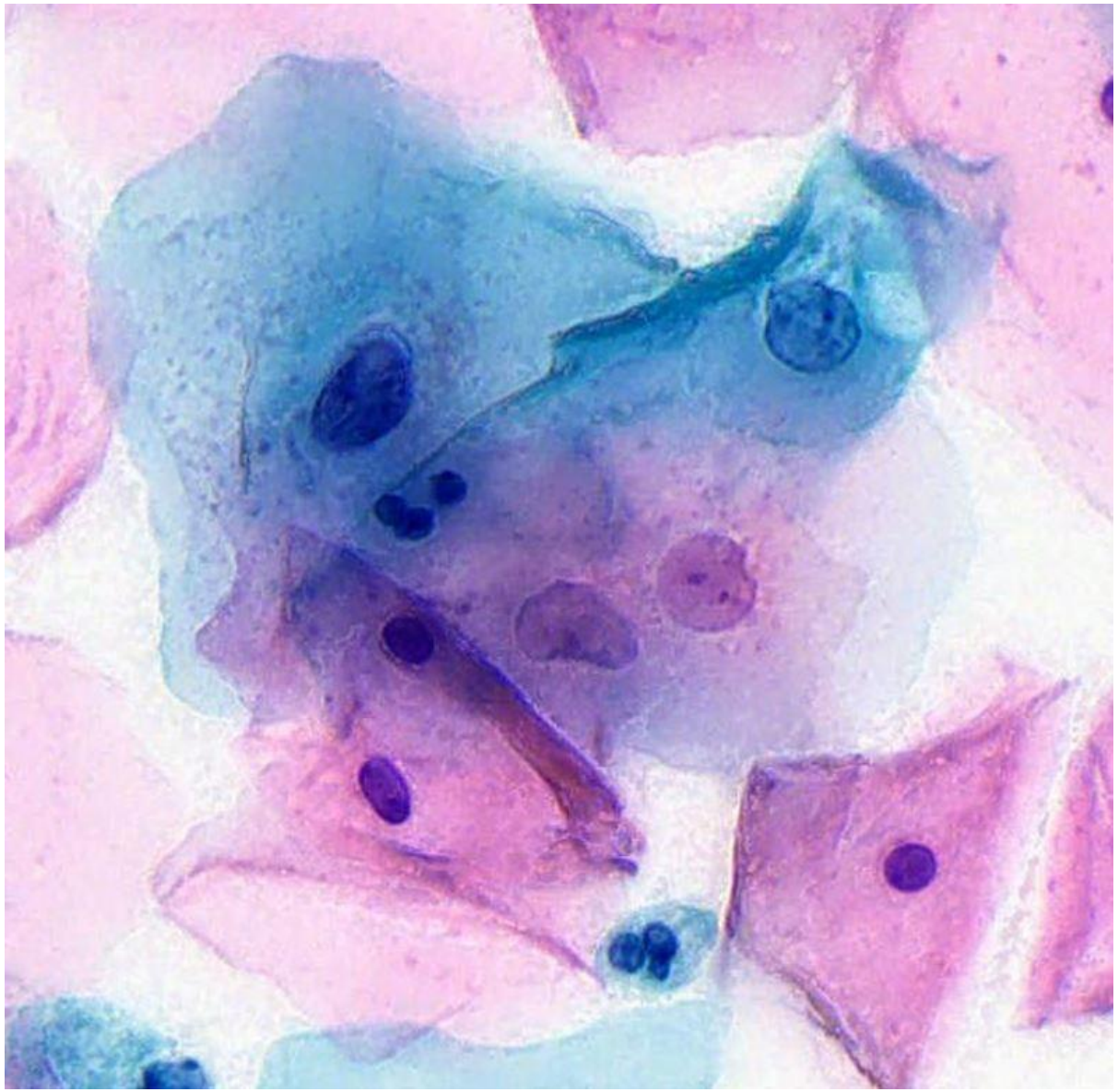

ASC-US #3 – binucleate cells

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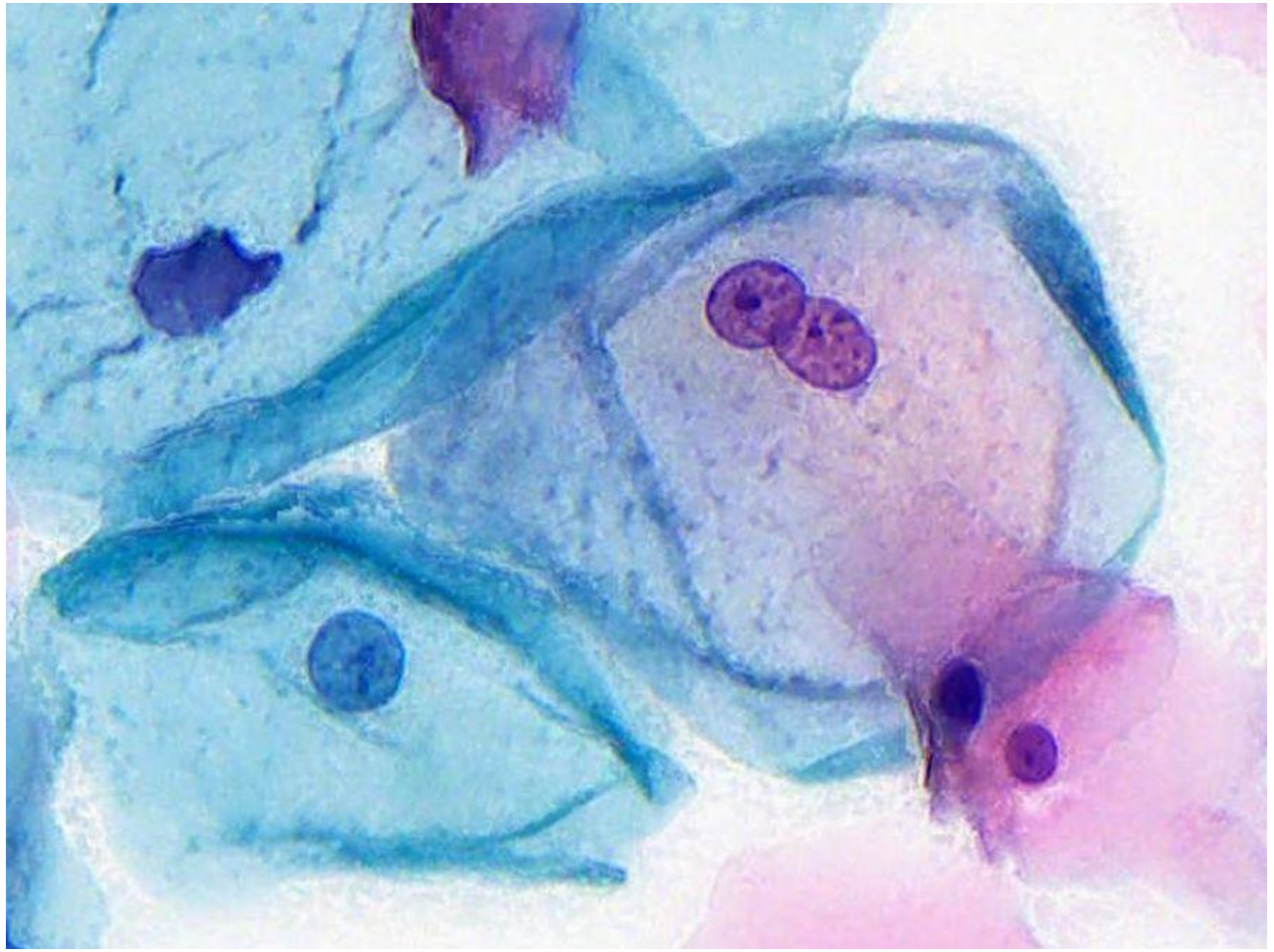
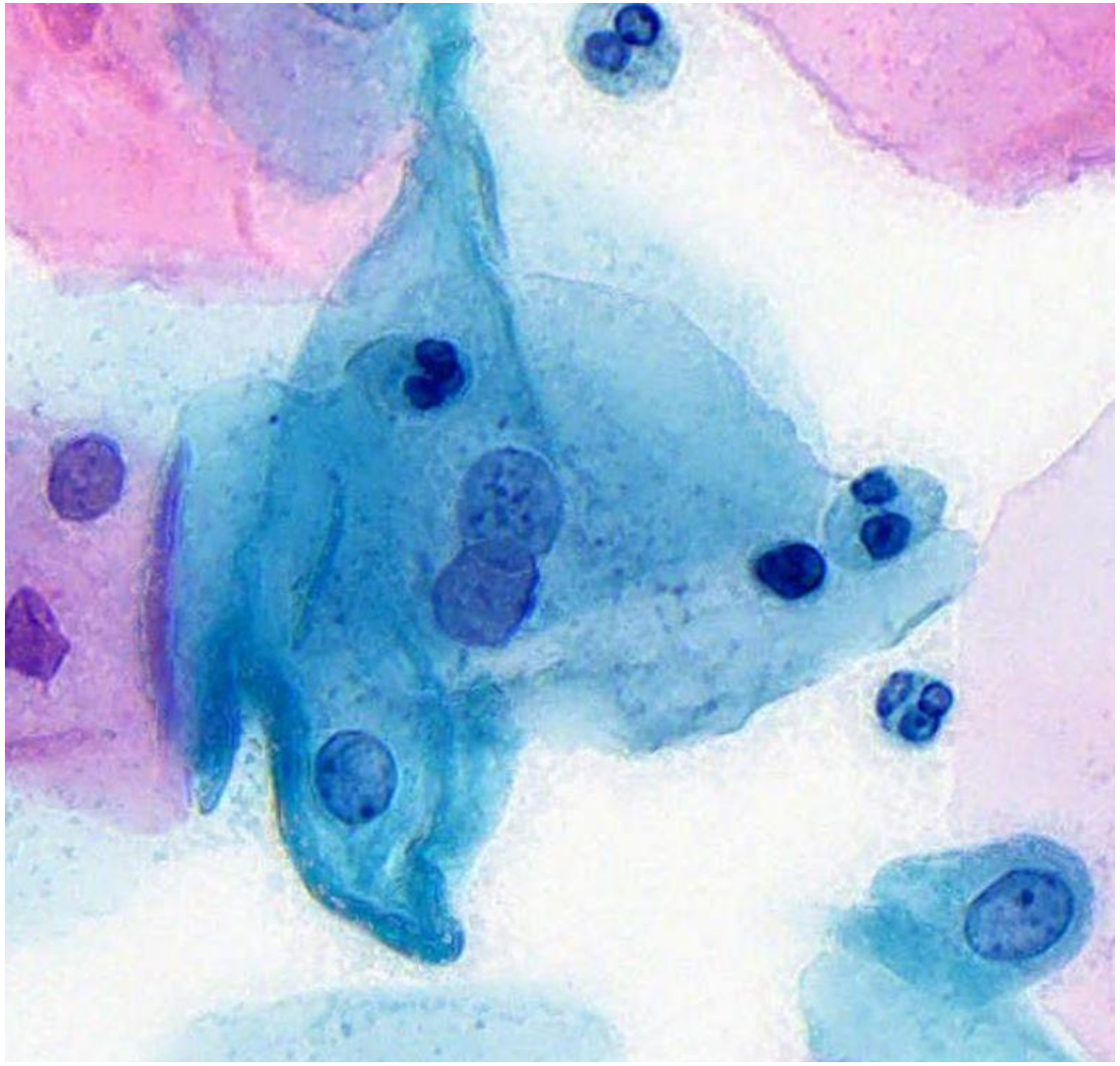
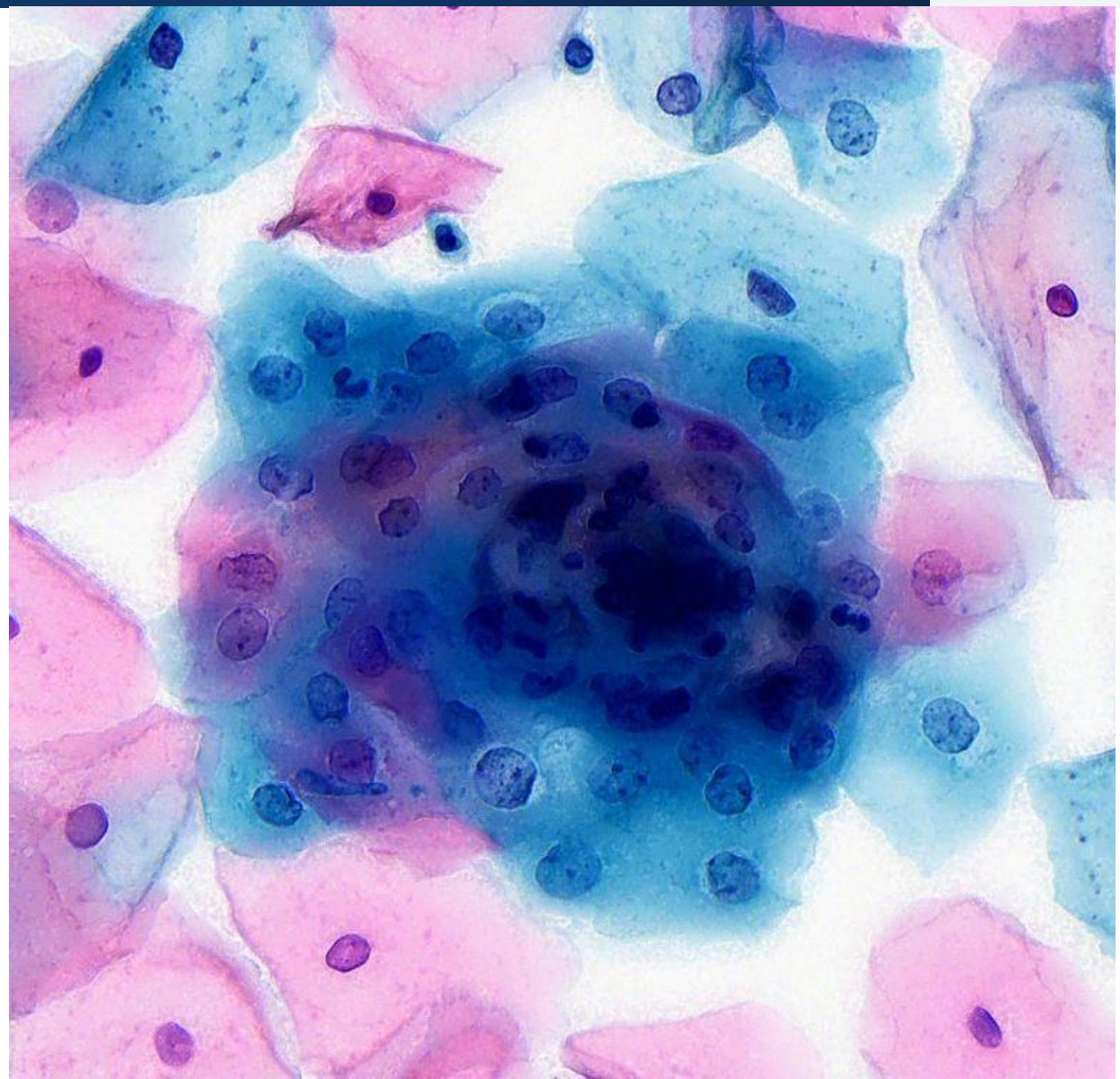




ASC-US #3 – large group of cells



ASC-US #4 – large clusters

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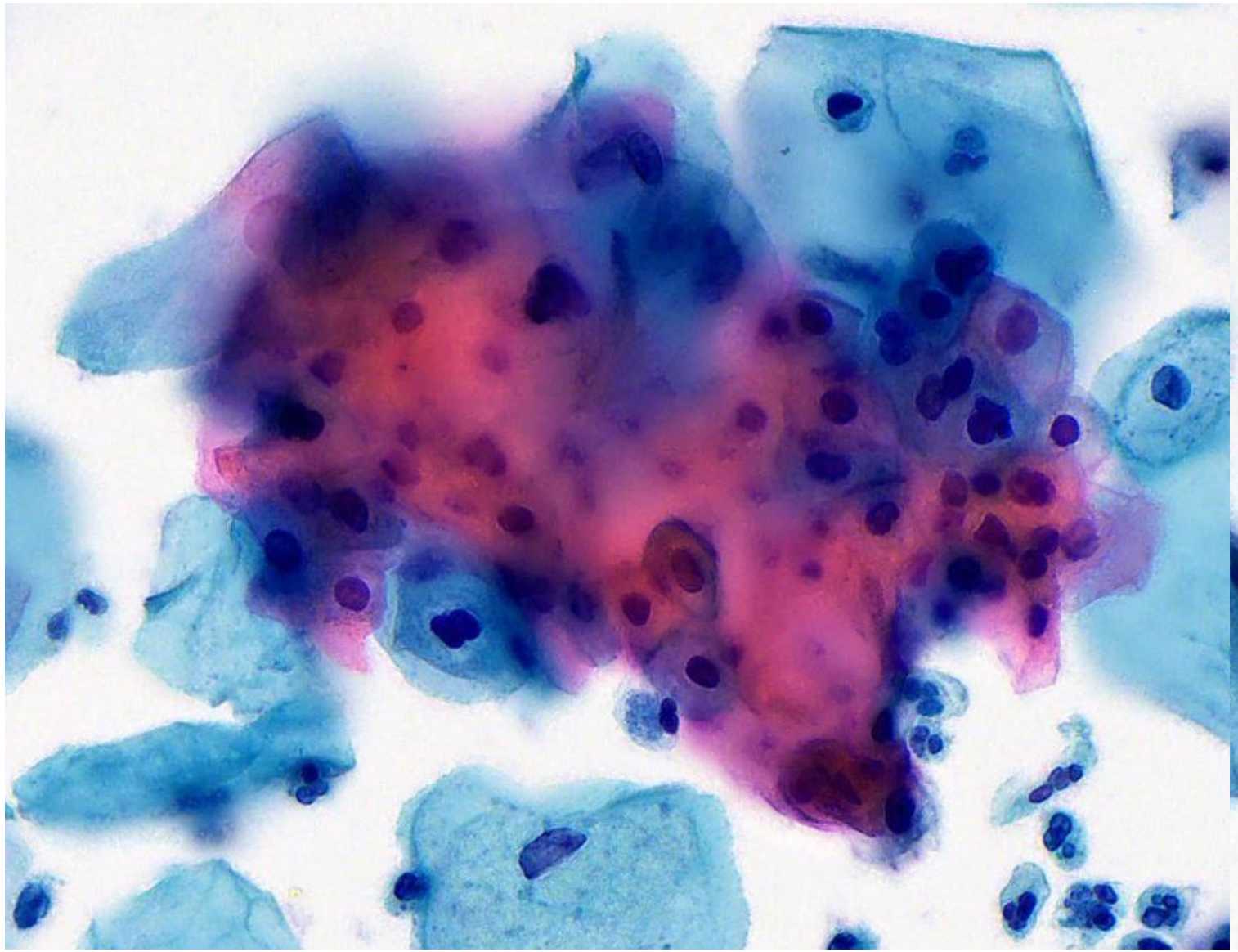

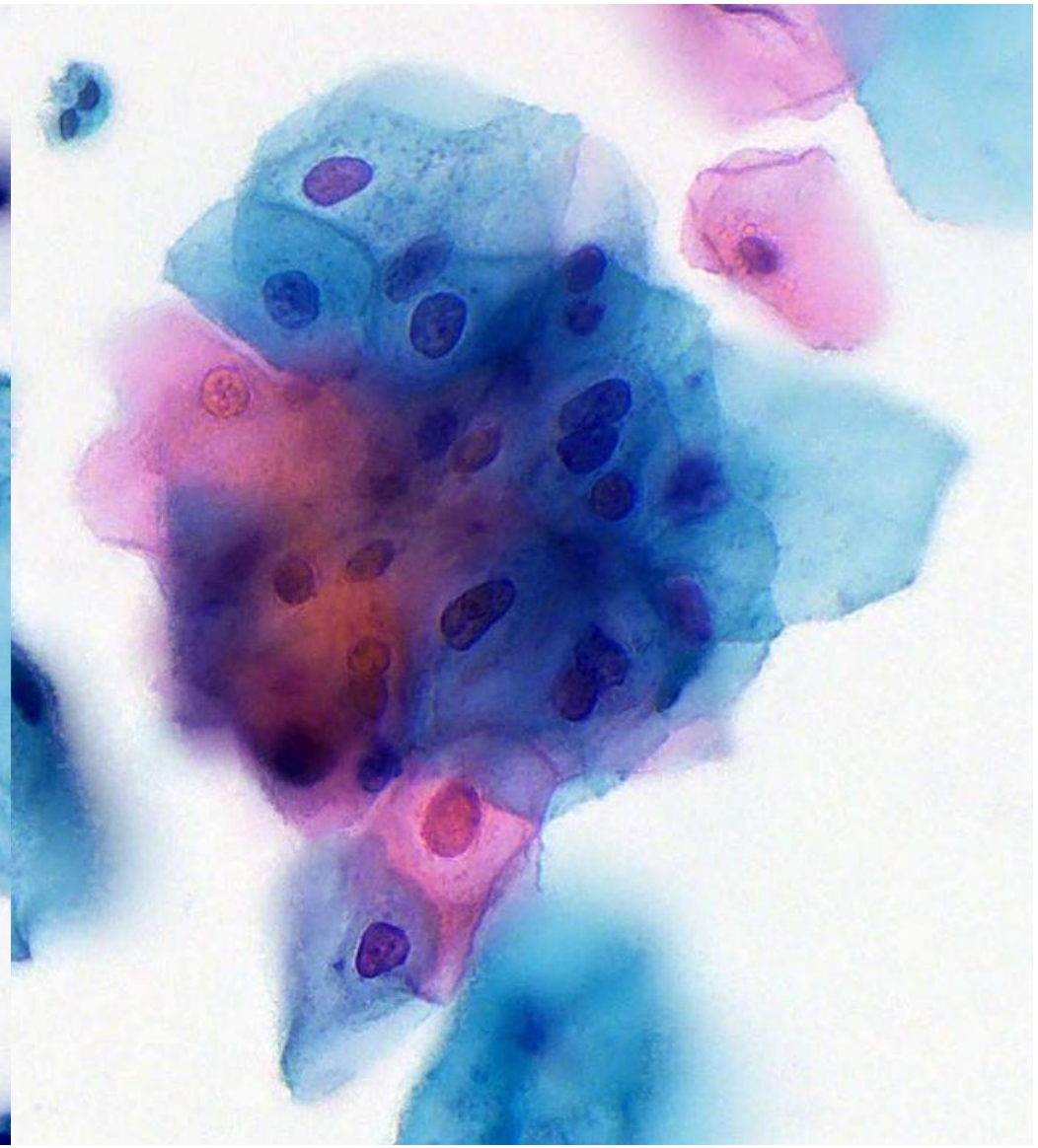

ASC-US #4 – nuclear changes

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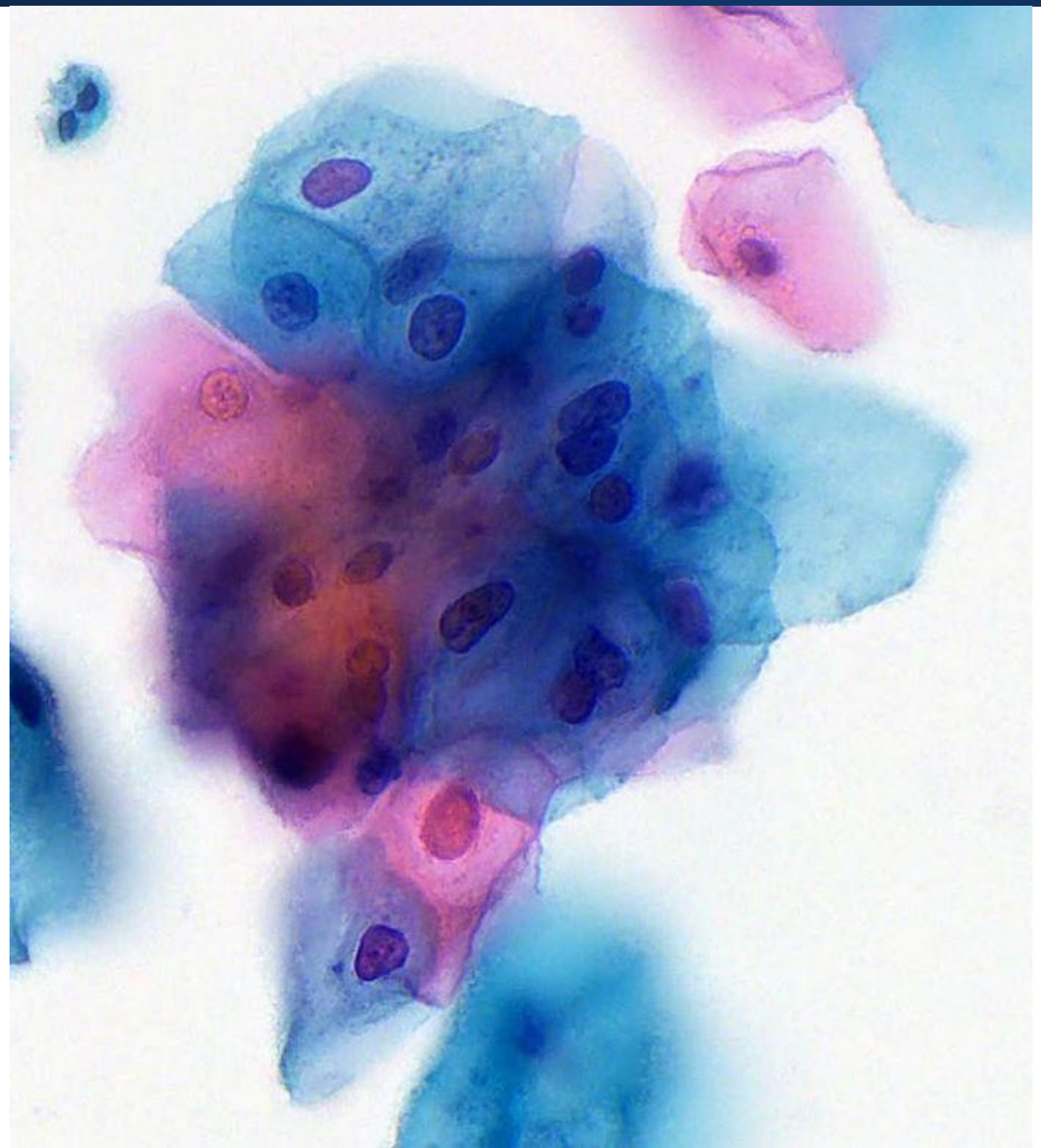

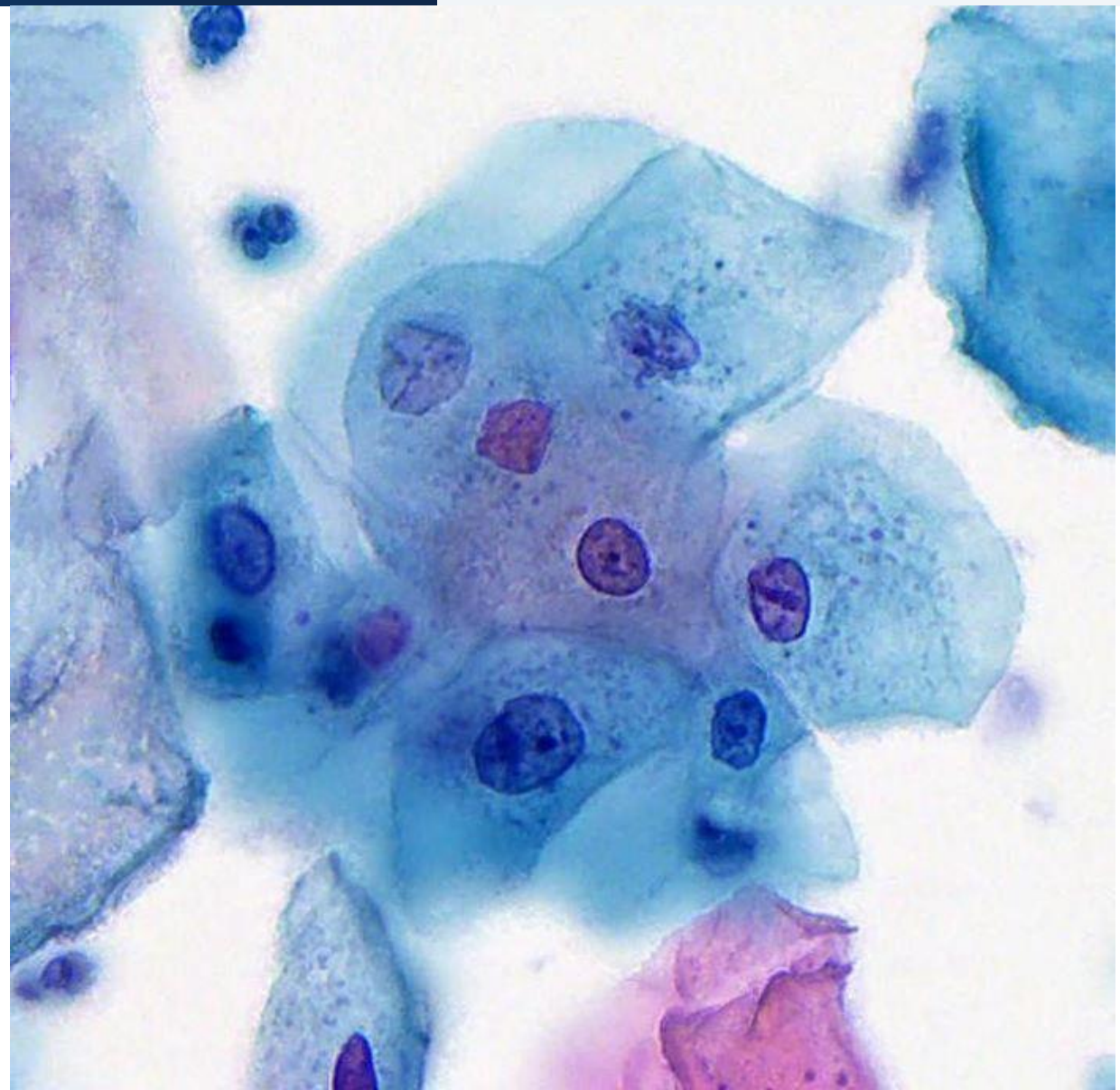

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