

1. All of the following are true about granular cell tumors EXCEPT:

Answer: E. Granular cell tumors are rarely malignant. (*Ultrastructural Pathology of the Cell and Matrix*. FN Ghadially, Fourth Ed. 1997, p. 724-725)

2. EM of a tumor shows long intertwining processes between cells with abundant external lamina (excessive with redundant folds), and long spacing abnormal collagen fibers. These findings are most suggestive of:

Answer: C. These features are most descriptive of a Schwannoma. (*Ultrastructural Pathology of the Cell and Matrix*. FN Ghadially, Fourth Ed. 1997, p. 1142-43 and 1328-31)

3. Based on the findings in the images for Case #1, which of the following is the best diagnosis?

Answer: D. These EM photos illustrate intertwined narrow cytoplasmic processes, and “Luse” bodies (these look like striations of skeletal muscle fibers), which are the most characteristic findings in a schwannoma. (*Ultrastructural Pathology of the Cell and Matrix*. FN Ghadially, Fourth Ed. 1997, p. 1328-31)

4. For a conventional cervical cytology smear, there should be at least _____ well-visualized cells.

Answer: D. For a conventional smear the minimal threshold is higher than liquid based preparations. There should be at least 8,000 – 12,000 well-visualized cells present. (*The Bethesda System for Reporting Cervical Cytology*. Solomon D., et al. 2nd edition. 2004. p. 3-11.)

5. All of the following are valid identifiable findings in a pap smear according to the “Bethesda System, 2nd edition” EXCEPT:

Answer: E. Chlamydia identification has a low sensitivity and reproducibility in cervical cytology and is not included in TBS. There are much better techniques available for this diagnosis, including culture, ELISA, and PCR. (*The Bethesda System for Reporting Cervical Cytology*. Solomon D., et al. 2nd edition. 2004. p. 32.)

6. Leptothrix is often seen in association with which of the following:

Answer: D. Leptothrix is often seen in association with *Trichomonas vaginalis*. (*The Bethesda System for Reporting Cervical Cytology*. Solomon D., et al. 2nd edition. 2004. p. 21-25.)

7. The findings illustrated in Case #2 from a cervical pap smear are best described as:

Answer: D. These cells are navicular cells, which represent glycogenated squamous cells and are commonly found in pregnant patients. Although this is not specific.

8. The findings in Case #3 are from a 35 y/o sexually active woman who presents to her PCP office for a routine checkup and pap smear. Based on the findings, the best diagnosis is:

Answer: A. This case illustrates LSIL which is characterized by an enlarged (usually 3.5 times the size of an intermediate nucleus) hyperchromatic nucleus that has a wrinkled nuclear contour. In koilocytes there will be clearing of the cytoplasm surrounding the nucleus. *Test taking strategy* Usually in cases when you may feel it is borderline between two diagnoses (ASCUS vs. LSIL), often one of the options will not be included, or there will be something in the history to lead you in one direction. For example sexually active would imply this woman may be exposed to the HPV virus.

9. The images for Case #4 are from a pap smear of a 35 y/o female who has not been to a physician in over 15 years, and has noticed a malodorous discharge for several months. Based on the findings, the best diagnosis is:

Answer: C. This case illustrates SCC. Note the bizarre cells, single cell keratinization, and tumor diathesis. In liquid based preparations this diathesis may be less prominent, but often there will be a background of fibrinous like smudges and usually acute inflammatory cells.

10. A 50 y/o man presents with a submandibular mass. A FNA was performed, and the results are represented in the images for Case #5. Based on the findings, the best diagnosis is:

Answer: B. This represents the classic FNA findings of an adenoid cystic carcinoma with cribriform features. Sometimes adenoid cystic carcinomas may have a solid pattern, which makes the diagnosis more difficult.

11. A 38 y/o male presents with a parotid mass. A FNA was performed and the results are represented in the images for Case #6. Based on the findings, the best diagnosis is:

Answer: C. This case represents the classic findings in a pleomorphic adenoma. The presence of cells embedded within a metachromatic stroma which is prominent on Diff-Quick stain is characteristic. Notice how the metachromatic stroma is difficult to recognize on the pap stain. It is good to compare this case with the findings in the previous case of adenoid cystic carcinoma. Also, the stromal component and its edges are fibrillary in pleomorphic adenoma and sharp and glassy in adenoid cystic carcinoma.

Notes for question set:¹

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