MOC CONTENT SPECIFICATIONS

ANATOMIC PATHOLOGY - New Validated Practical Knowledge

Content Specifications are intended to guide diplomates in selecting their MOC Part II and Part IV activities. They are not intended to be study guides for the MOC Part III exam, although the exams may include some questions on topics and references included in the Content Specifications. Please refer to the MOC Study Guides for exam preparation.

I. Breast
   Needle core biopsy diagnosis: when to excise and when not to excise
   Basal cell phenotype breast cancer (see Hereditary adult tumors)
   Columnar cell lesions – columnar cell hyperplasia and flat epithelial atypia
   Her2-neu testing guidelines (ASCO/CAP 2013)
   Sentinel lymph node biopsy, minimal nodal disease
   Spindle cell lesions of breast
   Immunohistochemistry in breast pathology
      Myoepithelial markers and stromal invasion
      Markers of lobular/ductal differentiation

II. Central Nervous System
   Diffuse gliomas: morphologic features and molecular markers
      1p/19q deletions in oligodendroglioma
      EGFR amplification in glioblastoma multiforme

III. Cytology
   Guidelines for cervical cytology screening and management and HPV testing
      2006 ASCCP Consensus Guidelines for management of abnormal cervical cytology
   Bethesda system of reporting of GYN cytology
   Endoscopic ultrasound-guided FNA diagnosis
   Bethesda classification of thyroid cytology

IV. Gastrointestinal
   Esophagus, stomach, intestines
      Sessile serrated adenoma; serrated pathway for adenocarcinoma, hereditary non-polyposis carcinoma (also, see under “Hereditary adult tumors”)
   Gastrointestinal stromal tumor, prognosis, and its mimics
   Esophagitis, eosinophilic esophagitis, reflux
   Microscopic colitis
   Dysplasia in Barrett’s esophagus and inflammatory bowel disease
   Sprue, diagnosis with normal villous architecture, but with increased mucosal
lymphocytes
Mucinous appendiceal tumors
Liver
Grading and staging of chronic hepatitis
Steatohepatitis, NASH
Pathology and Immunohistochemistry of focal nodular hyperplasia and adenoma
Pancreas
Classification of pancreatic intraepithelial neoplasia, PANin
Intraductal papillary mucinous tumors
Mucinous cystic tumors
Autoimmune pancreatitis
Pancreatic endocrine neoplasms: diagnosis and prognosis

V. Genitourinary
Prostate
Update on Gleason grading of prostate cancer
Current immunohistochemistry in diagnosis of adenocarcinoma
AMACR
basal cell markers
Criteria for prostatic adenocarcinoma, ASAP, PIN
Newly described patterns of adenocarcinoma which mimic benign disease, including foamy gland carcinoma, atrophic carcinoma and pseudohyperplastic carcinoma
Post treatment diagnosis of prostate cancer
Benign mimics of prostate cancer
Intraductal carcinoma of the prostate
Staging of prostate cancer
Bladder
Histologic variants of urothelial carcinoma, nested urothelial carcinoma, plasmacytoid, micropapillary, lymphoepithelioma-like variants
Spindle cell proliferations
WHO/ISUP classification of urothelial tumors
Staging of bladder cancer
Kidney
Cytogenetics of renal neoplasms
Classification of renal neoplasms
Use of immunohistochemistry in renal neoplasms
Staging of renal cell carcinoma and renal sinus involvement
Testis
Classification of testicular neoplasms
Immunohistochemistry in diagnosis of testicular neoplasms; e.g. PLAP, OCT 3/4, inhibin, c-kit, CD30

VI. Gynecology
Ovary
- Pseudomyxoma peritonei
- Mucinous ovarian tumors
- Serous borderline tumors and significance of micropapillary pattern
- New concepts in ovarian and pelvic serous carcinogenesis
  - Different molecular pathways in low grade serous carcinoma versus high grade serous carcinoma
  - The relationship between intraepithelial carcinoma of the fallopian tube and pelvic serous carcinomas

Diagnostic immunohistochemistry/biomarkers
- PAX-8, WT-1, P16, etc. in gynecologic pathology

Prognostic parameters in endometrial carcinoma

Pathology of undifferentiated and dedifferentiated endometrial carcinoma

VII. Hematopathology
- Standardized WHO nomenclature (2001) for lymphoma, leukemia, myeloproliferative disorders, myelodysplastic disorders, plasma cell neoplasms
- Minimal residual disease in acute leukemia
- Recently described lymphomas
  - Primary effusion lymphoma
  - Plasmablastic lymphoma
- Ancillary techniques
  - Transcription factors in lymphomas and leukemias
  - New molecular markers, JAK-2
  - Gene profiling in lymphoma

VIII. Hereditary Adult Tumors: current concepts
- BRCA 1 and 2
  - Breast – morphologic features and basal phenotype
  - Ovary – morphologic features and risk
  - Fallopian tube – morphologic features and handling of specimens for prophylactic bilateral salpingo-oophorectomies
- Hereditary Non-Polyposis colon cancer (HNPCC) and MSI
- Familial Adenomatous Polyposis and other polyposis syndromes

IX. Pulmonary
- Classification of adenocarcinoma and concept of “in-situ” adenocarcinoma
- Subclassification of non small cell carcinoma, and prognosis and treatment
- Current concepts in interstitial lung disease
- Important histologic parameters in staging and prognosis of lung cancer

X. QA in anatomic pathology
- Use of standardized pathology protocols
XI. **Skin**
Desmoplastic melanoma
Sentinel lymph node biopsy

XII. **Soft Tissue**
New concepts/update in classification
  - Pleomorphic undifferentiated sarcoma (MFH)
  - Hemangiopericytoma-Solitary Fibrous tumor
  - Borderline vascular tumors
  - Atypical lipomatous tumor-Well differentiated liposarcoma

Interpretation of Needle Biopsy
  - Limitations and Grading
New diagnostic markers
  - MDM2/CDK4 (well differentiated liposarcoma)
  - LANA-1 (Kaposi sarcoma)
  - TFE3 (alveolar soft part sarcoma)
  - WT1 (desmoplastic small round cell tumor)
  - Beta-catenin (fibromatosis)
  - ALK (inflammatory myofibroblastic tumor)

Translocation-associated sarcomas vs. Non translocation sarcomas
Biological and histological differences
Molecular genetic identification of soft tissue tumors
Recent entities
  - Perineurioma
  - PEComa
  - Acral myxoinflammatory fibroblastic sarcoma
  - Low grade fibromyxoid sarcoma
  - Desmoplastic small round cell tumor

XIII. **Molecular**
Gene probe technology in tumor pathology
Molecular markers in relation to chemotherapy
  - GIST
Targeted therapies

REFERENCES


23. Hruban,R.H.; Fukushima,N. Pancreatic adenocarcinoma: update on the surgical pathology of carcinomas of ductal origin and PanINs; Modern Pathol 2007; 20:S61-S70

