METASTATIC CARCINOMAS

• 10% to 15 % cancers present as metastases
• Most common metastatic tumor adenocarcinoma

• Most common metastatic sites:
  • - Lymph nodes: most common in particular head and neck region
  • - Liver
  • - Lung
  • - Bone
  • - Serous cavities
  • - Kidney
  • - Brain
Unknown primary tumor (UPT)

- 2% to 10% of all malignant neoplasms

- Most common UPT pancreas (below diaphragm) and lung (above diaphragm) carcinomas
Well- differentiated (keratinized) SCC

- Keratinized (greenish blue coloured) cytoplasm
- Dense cytoplasm with distinct boundaries
- Dense chromatin
- Insignificant nucleoli
- Spindle and caudate cells
- Necrotic background
- Single cells
- IHC squamous markers: p63, p40, CK/6
SCC with squamoid/dense cytoplasm
Nonkeratinized SCC

- Cohesive tumor clusters
- Dense cytoplasm
- Dense chromatin
- Basaloid dark cells
- Rare keratinized squamous cells
Poorly differentiated SCC
HPV-related SCC
Basaloid SCC
Spindle cell SCC
Case 2: 46 y-o male patient.
Submandibular lymphadenopathy with 15 x13 mm in diameter
Lymphoepithelial carcinoma
Nasopharynx carcinoma

Lymphoid background

- Isolated tumor cell or small epithelial clusters
- Tumor cells with fragile cytoplasm and prominent nucleoli
- Lymphoepithelial tumor
- p63, p40, CK5/6
- and CISH EBER +
Nasopharynx carcinoma

panCK

p63

EBER
Adenocarcinoma

- Round nucleus
- Prominent nucleoli
- Usually abundant pale cyanophilic cytoplasm
- Cytoplasmic vacuolization
- Intra/extracellular mucine secretion
- Psammomatous calcifications
- Intranuclear pseudoinclusions

- Abortive tubules
- Papillary structures
- Cribriform architecture
- 3-D clusters
- Signet ring cells
- Dyscohesion
- Isolated tumor cells

- In the differential diagnosis IHC is necessary in most cases
Adenocarcinoma
Tubular organization
Loosely cohesive
Fine chromatin
Pale cytoplasm

SCC
Cohesive cluster
Dark stained nucleus
Coarse chromatin
Dense cytoplasm
Tubular organization
Solid pulmonary adenocarcinoma
Papillaroid clusters
Cribriform pattern
Cribriform pattern
Micropapillary ACA

TTF-1
Vacuolated / clear cytoplasm
Poorly differentiated non-small cell carcinoma
Breast carcinoma (invasive ductal)
58 y-o female patient
Operated breast ca. Lytic pelvic bone lesion. Metastasis?
Metastatic Invasive lobular carcinoma
Gastric adenocarcinoma
Mucinous adenocarcinoma
Signet ring cells
Colorectal adenocarcinoma

- Columnar cells with elongated nuclei
- Palizading of nuclei
- Necrotic background
- Well formed gland structures
- Most common metastases to liver
Necrotic background
Abortive tubular structures
Palizated columnar atypical epithelial cells
Cholangiocarcinoma
Cholangiocarcinoma
Pancreatic ductal carcinoma
Drunken honeycomb
Case 2: 48 y-o male patient with a liver mass measuring 5 x 4 cm
Clinical story: Distal esophageal adenocarcinoma diagnosis was rendered 9 months ago
Serum Beta-HCG level: 300,000 m IU/ml
Second malignancy- germ cell tumor?
SALL4 (germ cell tumor marker)
Esophageus biopsy
Clear cell tumor
Clear cell RCC
58 y-o female patient, operated RCC with left clavicula mass
Metastatic high grade clear cell RCC
56 y-o female patient with ovarian tumor and multiple liver metastasis
Raspberry body
Prostate carcinoma
Prominent nucleoli and bare nuclei
Atypical carcinoid (kidney metastasis)
Low grade neuroendocrine tumors
TEACHING CASE 3: 78 y-o female patient with peritonitis carcinomatosa, bilateral ovarian mass and multiple metastatic liver masses. Serum ca125 level high 278 ng/ml. FNA performed peritoneal lesions. Ovarian tumor?
Malignant mesothelioma
Urothelial carcinoma
cercariform cells
TEACHING CASE 4: 56 y-o male with left kidney mass involving renal pelvis and a subcutaneous metastatic mass at left paravertebral area. FNA performed from subcutaneous mass. Renal cell carcinoma?
TEACHING CASE  5: 53 y-o male patient with left parotid mass, 2x1 cm
AMELANOTIC MALIGN MELANOMA