

Histopathology Quiz 2

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This is another quiz that will test your ability to recognise interesting histopathology. Images included are of immunohistochemical (IHC) stains, immunofluorescence (IF) and special stains as well as the routine stain.

Routine histopathology slides are stained with haematoxylin and eosin (H&E). However, sometimes extra tests are required to make a diagnosis.

Immunohistochemistry is a brown-coloured antibody-based stain which highlights specific antigens. They can help identify cell type and other relevant parameters.

Immunofluorescence is a fluorescent antibody-based stain which highlights specific antigens, most often used for immune-mediated inflammatory diseases.

Special stains are chemical-based stains to identify specific physical properties.

Here are eight pathologies with photomicrographs. Some include IHC stains, IF stains or special stains. These are not necessarily sufficient to make a confident diagnosis but are typical examples.

THE IHC, IF AND SPECIAL STAINS USED ARE:

CK20: Epithelial marker, found in a number of epithelia, commonly used to stain lower gastrointestinal tract and Merkel cells.

CD56: A glycoprotein which is sensitive, but not specific for, neuroendocrine tumours.

Synaptophysin: A glycoprotein localized to presynaptic neurosecretory vesicles.

CD117/CKIT: Receptor for kit protein, a tyrosine kinase growth factor receptor protein.

TTF1: Thyroid transcription factor 1, preferentially expressed mainly in thyroid and lung.

E-cadherin: E-cadherin is a transmembrane protein involved in cellular adhesion.

P53: TP53 Tumour suppressor gene.

WT1: WT1 gene encodes for Wilms tumour protein.

Immunofluorescence, IgG: Fluorescent stain, often for specific immune-mediated antigens.

DPAS: Diastase Periodic Acid Schiff: Stains basement membrane, glycogen, some mucins and mucopolysaccharides, and fungal hyphae.

Match the photos with the possibilities mentioned below:

Options:

- Bullous pemphigoid
- Tinea
- Small cell carcinoma
- Seminoma of the testis
- Scabies
- LCIS (lobular carcinoma in situ)
- Serous carcinoma of the ovary
- Merkel cell carcinoma

Questions:

Q1. H&E, CD56, CK20

Q2. H&E, CD117/CKIT

Q3. H&E, DPAS

Q4. H&E, CD56, TTF1

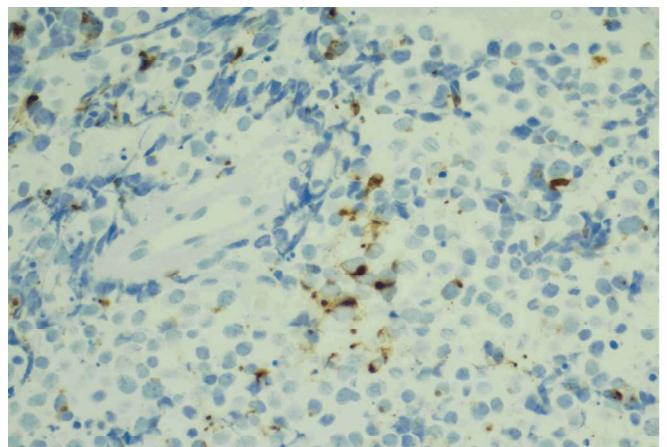
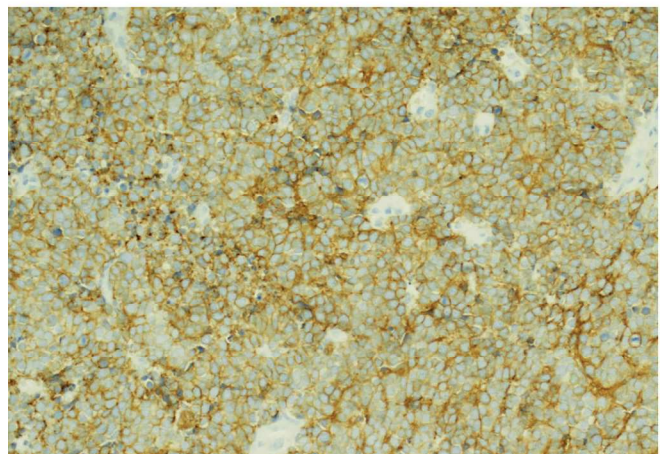
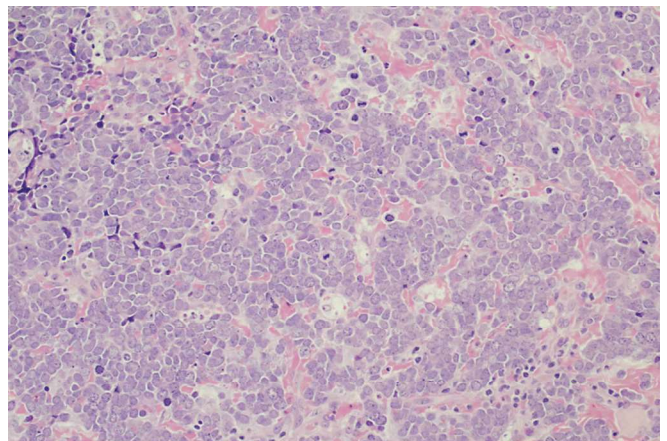
Q5. H&E

Q6. H&E, e-cadherin

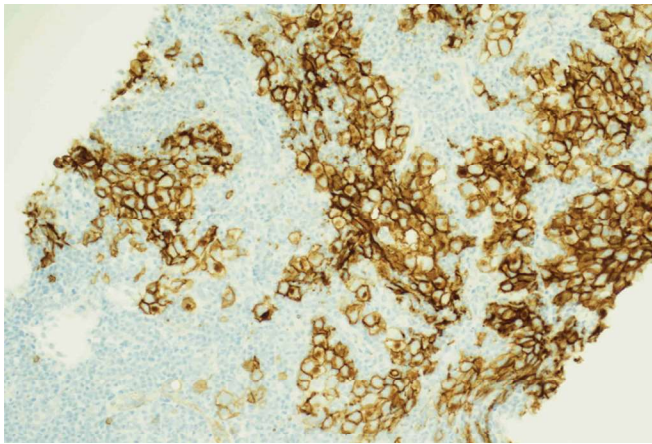
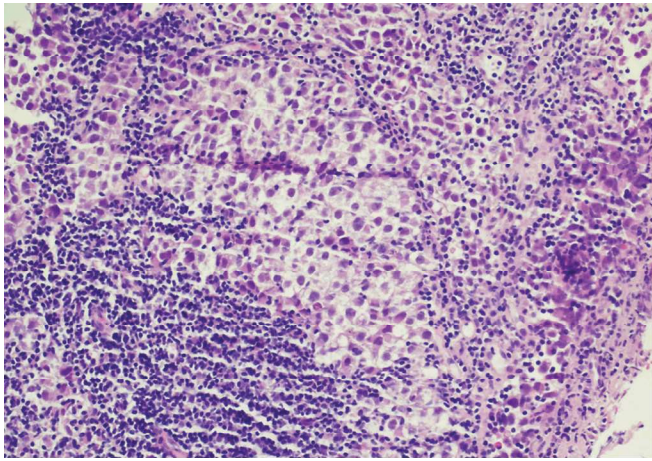
Q7. H&E, Immunofluorescence (IgG)

Q8. H&E, WT1, P53

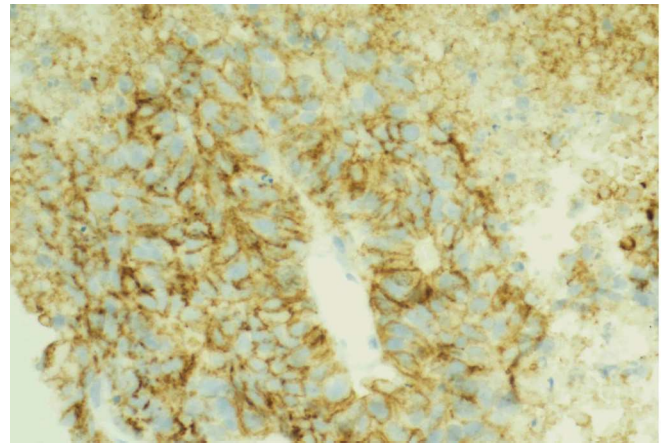
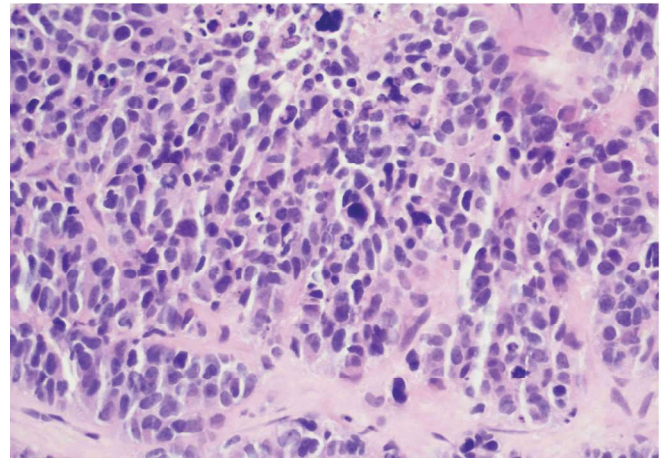
Q1. H&E, CD56, CK20



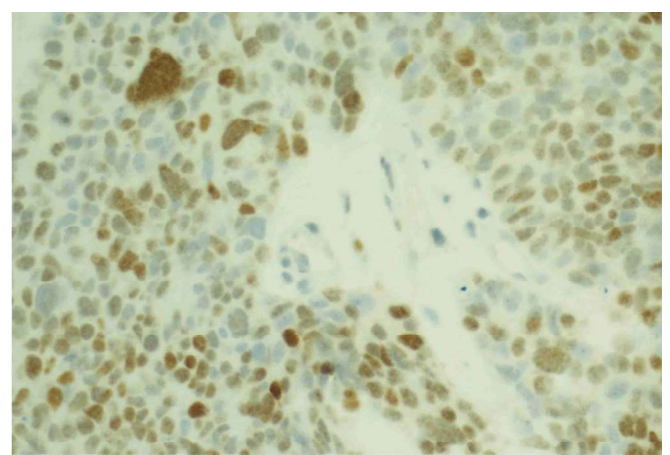
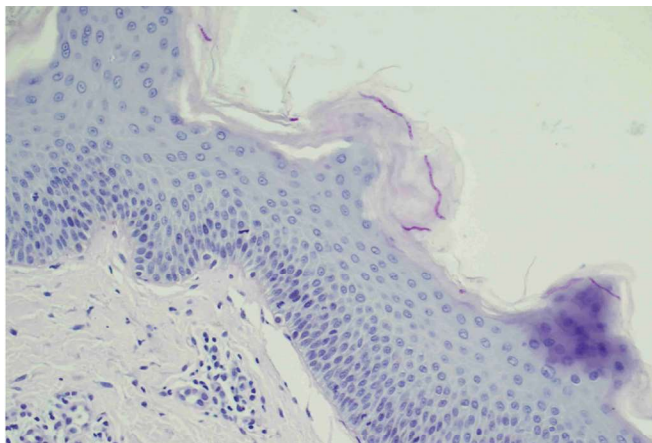
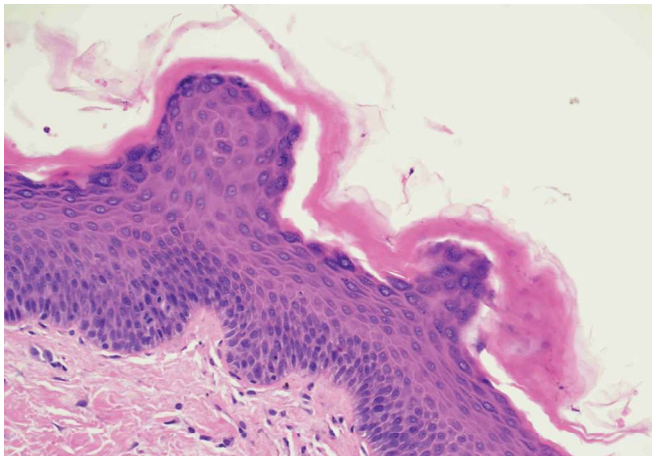
Q2. H&E, CD117/CKIT



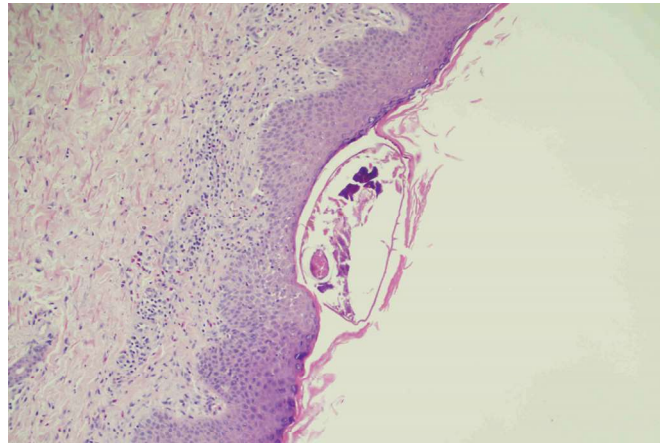
Q4. H&E, CD56, TTF1



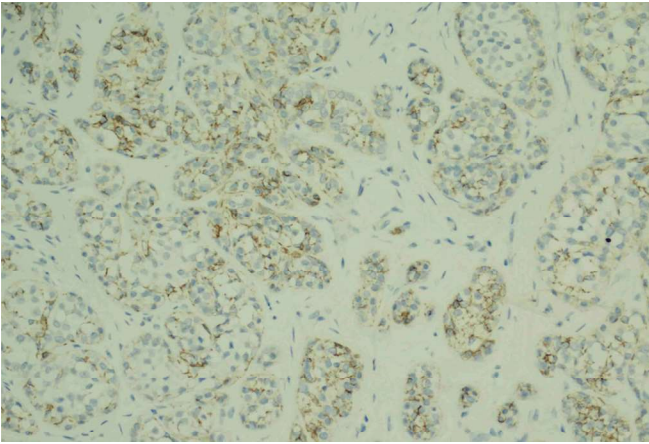
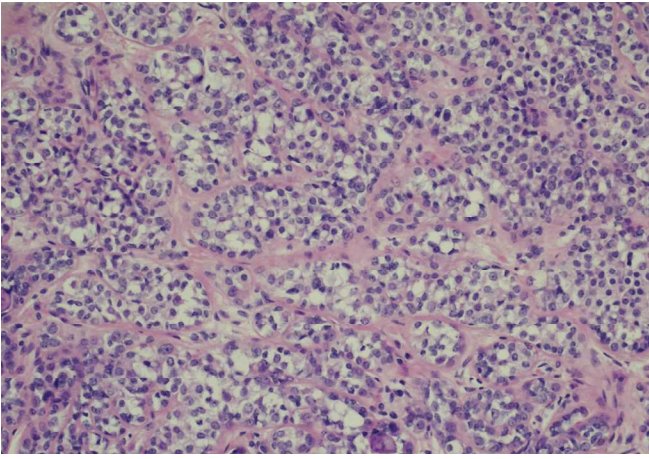
Q3. H&E, DPAS



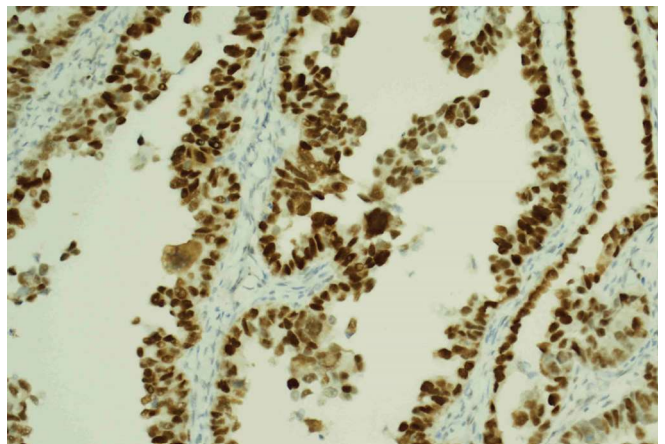
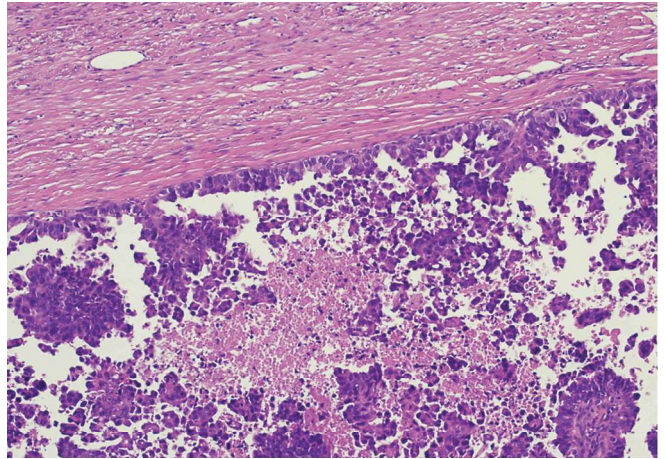
Q5. H&E



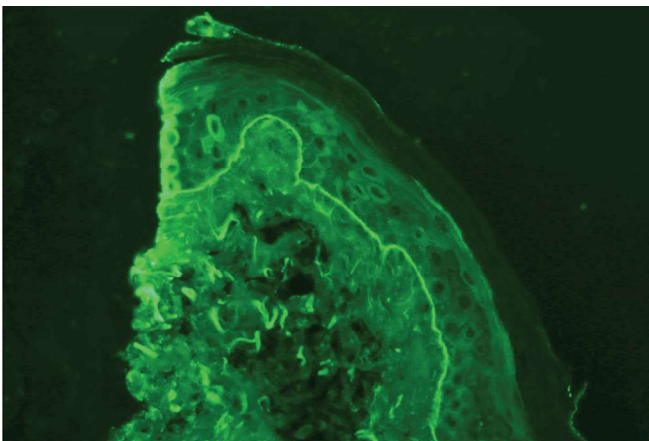
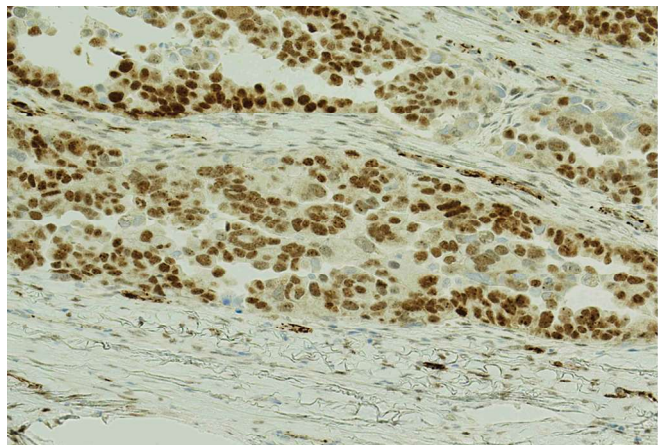
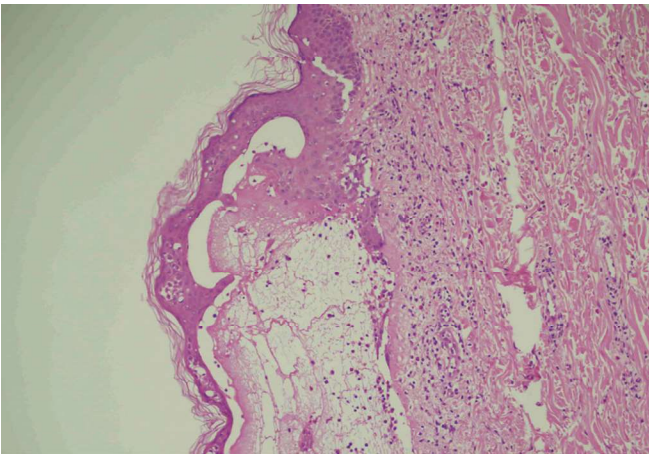
Q6. H&E, e-cadherin



Q8. H&E, WT1, p53



Q7. H&E, IF: IgG



See page 207 for the answers.

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