PATH2210 NOTES

CONTENTS:

-Introduction to gross anatomical pathology

-Introduction to Human Disease

-Organs, tissues, cells and chromosomes

-Haematopoiesis

-Introduction to immunity and the immune system

-Innate immunity

-Adaptive Immunity

-Immune responses and immunopathy

-Neoplastic diseases

-Common diseases of the GIT, liver and biliary system, pancreas, urinary system, endocrine system, musculoskeletal system, neuromuscular system, brain and nervous system, cardiovascular system, respiratory system

-Congenital and inherited diseases

Introduction to Gross Anatomical Pathology:

Pathology collections:

- Pathology collections are referred to as "bottles" or "pots" and are examples of disease identified during autopsy
- Specimens may be wet housed in bottles, plastinated, resin embedded or cadaveric
- Collections are established over decades
- Changes in legislation prevent new collections from being created on a large scale
- Nearly every specimen has a case written by a pathologist, dictating the patient history and diagnosis
- The purpose of the collection is for training new physicians and scientists
- SNOP coding is the "Dewey decimal system" of pathology collections. This is a world-wide identification system for disease.

Why is studying gross anatomical pathology important?

- The diagnostic process for many diseases includes imaging such as X-ray, CT, ultrasound, MRI and scopes. These are non-destructive techniques
  ⇨ Seeing is understanding
  ⇨ Not all diseases of the same type present the same way
  ⇨ Size and location of lesions are important in determining disease progression and treatment
  ⇨ Fewer autopsies are conducted, access to pathology collections are an appropriate substitute for specialist training
- Many diseases are diagnosed and classified by their visible features
- Example: A colonoscopy can enable a GIT specialist to differentiate between a polyp or carcinoma. Both of these conditions may have the same symptoms though one may be life threatening.
- From Macro to Micro
  ⇨ Specimens that appear as high risk can be biopsied and interrogated at the cellular level. This is called Histology
- Because size matters
  ⇨ Compare these two cases of kidney disease, how do they present anatomically?

Looking at a specimen, which way is up?

- Look for recognizable anatomic landmarks. This is much easier to do on an intact specimen. Once it is cut, orientation is easily lost. Even the most complicated of specimens can be reduced to three fundamental issues:
  ⇨ What structures are present?
  ⇨ What is the nature of the pathologic process?
  ⇨ How extensive is that process?
- Helpful hints to remember
  ⇨ Transverse=Top and bottom
  ⇨ Sagittal=split into sides

How to talk like a pathologist:

- Be descriptive, clear and concise, but be simple.
- Don't use big, fancy words
- Make your dictation easy to follow and read.
- Describe, do not diagnose
- Keep sentences short, and to the point
  - ⇨ Avoid long, lengthy or run-on sentences
  - ⇨ The longer your dictation is, the less likely someone will read it
- Its ok to use simple language to begin with, it gets your group talking about what you can see
- Describe in the active tense, not the past
- Avoid using multiple words, when one or two will suffice
- Keep your dictation with a logical order
  - ⇨ Don't jump around
  - ⇨ Don't skip things and then come back to them later
  - ⇨ Describe in an anatomically based fashion
  - ⇨ Describe in the way that people are accustomed to
- Call it as you see it
- Use anatomic terms, when applicable
- Avoid negative statements ("no-no's")
- No food descriptors, no matter how accurate they may be
  - ⇨ Cheesy ("caseous")
  - ⇨ Creamy ("white")
  - ⇨ Cauliflower-like ("verrucous")
  - ⇨ Chocolate cyst ("dark brown to red")
  - ⇨ Currant jelly clot ("purple to red clot")
- Do not use redundant phrasing
  - ⇨ Blue in colour. Blue is a colour
  - ⇨ Round in shape. Round is a shape.
  - ⇨ Weighs 10 grams. Grams denotes weight
  - ⇨ Measures 3 cm. Centimetres denote measurement
  - ⇨ "Received is…". Obviously, it is in the lab
  - ⇨ "… in maximum dimension." This is safely assumed if only one measurement is given (generally for small biopsies)
- Take note of the clinical history or diagnosis
  - ⇨ A pre-op diagnosis can and/or should be a guide as to the direction of your dissection.
  - ⇨ For example: r/o abruption>>maternal surface blood clot present?
- Know what normal is before trying to find abnormal
- Fresh tissue vs. formalin fixed tissue. Specimens once fixed in formalin can be confusing and distorted

Useful terms for describing shape and texture include:

- Well-circumscribed or pushing border
- Stellate or spiculated
- Irregular or jagged