ELEMENTS OF MACROSCOPIC DESCRIPTION

2009 C.L. Davis Foundation Gross Course
Washington, DC

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PURPOSE

The purpose of this 1-hour block of instruction is to gain knowledge and experience in the formulation of concise, accurate morphologic diagnoses, etiologic diagnoses, and related terminology. In addition to being appropriate for pathology reporting requirements, the use of correct formatting and style for morphologic diagnosis will facilitate satisfactory navigation of the ACVP, ECVP, and ACLAM examinations.

Due to time constraints, the lecture and accompanying exercise will focus primarily on the style aspects of morphologic diagnosis. Routine evaluation of gross specimens will be covered in the remainder of this course on a species-specific basis. (For those desiring additional training in pathology description, the Dept. of Veterinary Pathology at the AFIP offers a five day course in Descriptive Veterinary Pathology each year in Washington DC (June 11-15, 2005). See http://www.afip.org/edu/upcoming.htm for more details.)

GENERAL

1. There is **no one way** to describe the appearance of a gross specimen or its representation on a 2X2 kodachrome slide.

2. Be concise. Use as few words as possible to describe the changes you see - make all of your words count. Most lesions can be described in as little as three to four words.

3. Pay attention to the question. If you are told that a lesion is from a foal, a calf, or any other type of young animal- think first of diseases that are specific to young animals.

4. The only way to pass this part of the ACVP or ACLAM exam is to practice. Review as many slides as possible prior to the exam. A good background in necropsy procedures and years of experience in the autopsy room are not as useful for the ACVP

exam as having looked at thousands of slides. Good sources of materials are NOAH's Archive, and the C.L. Davis Gross Morbid Anatomy Course.

5. Prepare a morphologic diagnosis for **every** gross slide that you look at. Have acceptable "canned" morphologics at the ready in your short-term memory for some of the classic lesions. Don't try to compose them all on the fly.

6. Leave no answers blank. Along these lines, if you're not sure of the organ - analyze it carefully, and make your best guess. You are not penalized for outrageously bad answers!

7. **Never** change your answers - 9/10 times you'll change it to a wrong answer.

TYPES OF GROSS DIAGNOSES

The pathologist must be able to use a variety of formats to impart the diagnosis of a lesion to his audience. There are several formats with which you must be familiar.

A. Morphologic diagnosis. This is a summary of the lesion, but generally does not describe what is causing the lesion (i.e. diffuse severe granulomatous enteritis).

B. Etiologic diagnosis. This type of diagnosis is restricted to two words only - the causative agent and the site of the lesion (i.e., mycobacterial enteritis).

C. Etiology. This is the causative agent only - it may also be stated as cause, causative agent, or etiologic agent. It does not ask for the organ, distribution, or any other type of information (i.e., Mycobacterium paratuberculosis).

D. Name the disease. This type of diagnosis asks for a disease name in common usage (i.e., Johne's disease).

FORMULATING A GOOD MORPHOLOGIC DIAGNOSIS.

Morphologic diagnoses should have **a minimum of three components**: the organ in question (Liver:, hepatitis, hepatic, etc.), and interpretation of the process (pyogranulomatous, necrotizing, etc.), and a distribution (focal, diffuse, etc.) While other modifiers are acceptable, and can add greatly to a morphologic diagnosis, in many cases they are not required.

1. Organ. There are several ways to fit the organ into your morphologic diagnosis. You may use the noun (Lung: Pyogranulomas, multifocal, moderate) or the adjective (multifocal pulmonary pyogranulomas), or even as part of the process itself (multifocal pyogranulomatous pneumonia). Just make sure you get it in there.

2. Distribution.
    1. Focal - one singular lesion
    2. Multifocal - multiple lesions throughout an organ separated by unaffected tissue.
    3. Multifocal to coalescing - Multiple lesions which merge together to create even larger lesions.
    4. Diffuse - Total involvement of a tissue.
    5. Disseminated - Numerous small widely distributed foci - often embolic
    6. Transmural -Throughout all layers of a hollow organ
    7. Unilateral/bilateral/bilaterally symmetrical - self-explanatory.

3. Types of Inflammation – Let me stress that this is my list – eventually, you will develop your own.

    1. Purulent/Suppurative
    2. Granulomatous
    3. Hemorrhagic
    4. Necrotizing
    5. Proliferative
    6. Lymphocytic/plasmacytic
    7. Catarrhal
    8. Ulcerative
    9. Fibrinous

4. Other descriptors that you can use include:

    a) Temporal modifiers (acute, subacute, chronic)
    b) Severity (minimal, mild, moderate, severe)

5. **"Withs".** Occasionally, gross lesions are the result of more than one component events, which combine to create the final morphologic picture (i.e., erysipelas: multifocal cutaneous vasculitis with dermal infarction - the main event in this case is vasculitis of dermal vessels with the resultant dermal infarcts evident on the hog.)
6. Exceptions. There are certainly quite a few exceptions to the three-word morphologic diagnosis:

    A. Neoplasms. The proper morphologic diagnosis for a neoplasm is the name of

the neoplasm and the organ in it is located:

1. Renal lymphosarcoma
2. Tonsillar squamous cell carcinoma
3. Splenic hemangiosarcoma.

B. Certain conditions may be summed up in a single word. These terms usually combine the process with the location, or may instead describe a generalized process.

1. Meningoencephalocele
2. Palatoschisis
3. Cyclopia

C. When in doubt, give both a proper morphologic diagnosis and the entity name set off by parentheses. (While many graders would simply accept the name of the entity, it is always better to be safe than sorry.)

1. Focally extensive epithelial aplasia (epitheliogenesis imperfecta)
2. Diffuse severe suppurative endometritis (pyometra)

D. Finally, avoid using certain terms which enjoy current popularity, but whose definition may vary significantly between pathologists. These terms are best employed within parentheses at the end of a morphologic diagnosis to impart the vast extent of your knowledge to the audience.

1. Diffuse macronodular hepatic regeneration (cirrhosis)
2. Diffuse renal tubular necrosis (nephrosis)