WSC 2020-2021 Conference 1, Case 1
Tissue from an ox.

MICROSCOPIC DESCRIPTION: Lung: There is diffuse consolidation of this section of lung. **(1pt.)** Approximately 10% of the lung is replaced by brightly eosinophilic irregularly shaped areas of necrosis **(1pt.)** which range up to 1mm in diameter, and are centered primarily on airways **(1pt.)**. The centers of the area of necrosis occasionally retain the outline of cells with a lack of differential staining (coagulative necrosis), and the periphery (or the totality) of many areas of necrosis is infiltrated by moderate to large numbers of viable and degenerate neutrophils **(1pt.)** admixed with fibrin, and abundant cellular debris. Remaining airways are filled with numerous viable and degenerate neutrophils **(1pt.)** which multifocally extend through and efface the wall of bronchioles in the section and often extend into, fill and efface adjacent alveoli. **(1pt.)** Larger airways are surrounded by moderate numbers of lymphocytes and plasma cells. **(1pt.)** Throughout the section, alveoli **(1pt.)** are filled with variable combinations and concentrations of polymerized fibrin **(1pt.)**, degenerate neutrophils, edema, and cellular debris. Throughout the section, alveolar septa **(1pt.)** are expanded up to 3-5x normal by variable combinations of edema, hypertrophic intraseptal macrophages, fibrin and neutrophils. Multifocally, there is Type II pneumocyte hyperplasia. **(1pt.)** Interlobular septa are multifocally expanded by emphysema, and occasionally edema, accumulations of viable and degenerate neutrophils and cellular debris. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Lung: Bronchopneumonia **(1pt.)**, necrotizing **(1pt.)** and suppurative **(1pt.)**, diffuse, severe, with diffuse interstitial pneumonia **(1pt.)**, and type II pneumocyte hyperplasia.

CAUSE: *Mycoplasma bovis* **(3pt.)**

O/C: **(1pt.)**

WSC 2020-2021 Conference 1, Case 2

Tissue from a dog.

MICROSCOPIC DESCRIPTION: Lung: Diffusely **(1pt)**, alveoli are filled in a patchy fashion by variable combinations and concentrations of viable and degenerate neutrophils **(1pt)** admixed with large amounts of cellular debris **(1pt)**, hemorrhage **(1pt)**, edema, and polymerized fibrin **(1pt)**, Throughout the section, alveolar septa are markedly congested, and there are patchy areas of septal necrosis **(2pt)** in which alveolar walls are discontinuous, lack differential staining, and replaced by abundant fibrin, degenerate neutrophils, and cellular debris. **(1pt)** Some areas of necrosis are extensive, resulting in extensive foci of viable and degenerate neutrophils, cellular debris, hemorrhage and fibrin **(1pt)**. (Some slides may contain large colonies of 1-2um bacilli). Airways contain refluxed hemorrhage, fibrin, and inflammatory debris, and there is hemorrhage within the connective tissue of large airways. **(1pt)** Diffusely, the perivascular tissue of large veins and arteries is markedly expanded by profound edema and areas hemorrhage, and infiltrated by low to moderate numbers of neutrophils. **(1pt)** and the walls of several large veins along the edge of the section are expanded necrotic and largely replaced by numerous viable and degenerate neutrophils and abundant cellular debris (vasculitis) and contain numerous neutrophils which are often pavemented along their walls. There is extensive edema and neutrophil exudation into the **(1pt)**, perivenular connective tissue in this area.

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, interstitial **(1pt)**, fibrinosuppurative **(1pt)**, and necrotizing, diffuse, severe with necrotizing vasculitis **(1pt)** and bacterial colonies.

CAUSE: Acceptable answers: *E. coli* (or other coliform), *Steptococcus zooepidemicus* **(3pt.)**

O/C: **(1pt.)**

WSC 2020-2021
Conference 1, Case 3.
Tissue from a pig.

MICROSCOPIC DESCRIPTION: Lung: The pleura **(1pt)** is markedly expanded by edema **(1pt)**, hemorrhage, polymerized fibrin and a diffuse infiltrate of moderate numbers of viable and degenerate neutrophils, macrophages, and cellular debris. Pleural vessels are markedly dilated and congested, and surrounded by increased number of neutrophils and macrophages and proliferating fibroblasts. **(1pt)** The outermost aspects of the pleura is thickened by immature granulation tissue **(1pt)**, including numerous proliferating fibroblasts, endothelium forming haphazard vessels, and numerous viable and degenerate neutrophils and histiocytes. The pleura is covered by a mat of polymerized fibrin **(1pt)** up to 5mm thick, which entraps innumerable viable and degenerate neutrophils **(1pt)** admixed with cellular debris. Interlobular connective tissue **(1pt)** is also markedly expanded by edema fluid with multifocal aggregates of polymerized fibrin and infiltrating neutrophils in proximity to the lung parenchyma. Interlobular lymphatics **(1pt)** are also dilated by edema, polymerized fibrin, and low numbers of neutrophils. Diffusely, alveolar septa are expanded **(1pt)** by increased numbers of circulating neutrophils **(1pt)**, congestion edema, and fibrin. Alveoli are often atelectatic **(1pt)**, and the remainder contain variable combinations and concentrations of edema fluid, neutrophils, alveolar macrophages, and small amounts of fibrin. **(1pt)** Airways contain refluxed contents from adjacent alveoli, and occasional intraepithelial pustules and individualized and aggregates in lymphocytes and plasma cells within the airway epithelium as well. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Lung: Pleuropneumonia **(1pt)**, fibrinosuppurative **(1pt)**, diffuse, moderate to severe with marked intralobular edema and fibrin. **(1pt)**

CAUSE**:** *Glasserella parasuis (Streptococcus suis and Mycoplasma hyorhinis* OK) **(3pt)**

O/C: **(1pt.)**

WSC 2020-2021
Conference 1 Case 4.
Tissue from a pig.

MICROSCOPIC DESCRIPTION: Lung: Diffusely, airways **(1pt)** are surrounded by numerous nodular **(1pt)** aggregates of lymphocytes **(1pt)** and few macrophages **(1pt)** and plasma cells which compromise the airway lumen, infiltrate in large numbers or efface **(1pt)** the airway epithelium, submucosa, BALT and peribronchiolar tissue, and extend into and efface the surrounding alveolar parenchyma as well. Entrapped peribronchiolar arterioles are visible, and their muscular walls are thickened and they are surrounded by lamellae of mature collagen. **(1pt)** In effaced alveolar parenchyma, lymphoid aggregates are separated by thin bands of fibrous connective tissue. **(1pt)** Within remaining pulmonary parenchyma, alveoli **(1pt)**are markedly expanded by variable combinations and concentrations of edema **(1pt)** fluid, fibrin, lymphocytes, macrophages and neutrophils. Intervening septa are also expanded **(1pt)** by edema, fibrin, and hypertrophic intraseptal macrophages, and are occasionally discontinuous **(1pt)** (septal necrosis) **(1pt)**. There is multifocal smooth muscle hyperplasia **(1pt)** of the bronchioloalveolar rim throughout the slide. Subpleural nodular lymphocyte aggregates give the pleura an undulant outline and the interlobular septa and the overlying pleura are mildly edematous, and infiltrated by low numbers of lymphocytes, plasma cells, and macrophages. In an adjacent, less affected lobule, there are mild peribronchiolar and perivascular **(1pt)** aggregates of lymphocytes and plasma cells which extending into the surrounding alveoli. Bronchiolar lumina contains refluxed alveolar contents and there is mild BALT hyperplasia. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, bronchointerstitial **(1pt)**, lymphohistiocytic **(1pt)**, diffuse, severe, with marked BALT hyperplasia **(1pt)**, septal necrosis and edema

CAUSE: *Mycoplasma hyopneumoniae* **(2pt)**

O/C: **(1pt)**

O/C: **(1 pt.)**