



# ECVP/ESVP Summer School in Veterinary Pathology

## Summer School 2014 – Gastrointestinal Tract

N01-421-A. Five year-old cow losing weight, chronic diarrhea

A section of small intestine is examined. The submucosa and lamina propria are expanded by numerous, large, round cells with ample, granular cytoplasm and a round-to oval, indented, hypochromatic nucleus with a prominent nucleolus (histiocytes) [5]. There are no mitoses [1], and although cells usually have one nucleus, multinucleate cells and cells with up to 5 nuclei are noted [2]. Some small lymphocytes are mixed with these macrophages in the submucosa [2], but more lymphocytes, plasma cells and eosinophils are admixed in the lamina propria and villi [2]. Enterocytes are only mildly hyperplastic with fewer goblet cells, and line the broadened villi. Villus tips are denuded without necrotic cell debris or neutrophils (post-mortem artifact). The mucosa is in large folds [2]. The intestinal muscle walls are unaffected, but serosal lymphatics are accompanied by lymphocytes and some granular macrophages (perilymphangitis) [1].

MDx: [3] Intestine: Histiocytic/granulomatous enteritis; perilymphangitis

Cause: [2] *Mycobacterium avium* spp *paratuberculosis* (Johne disease)