

Christie Malazdrewich

Assistant Clinical Professor

Appointment 40% Teaching, 5% Extension/Outreach, 5% Service

Appointment History 2003-present Assistant Clinical Professor

Professional and Honorary Societies

American College of Veterinary Internal Medicine
American Association of Equine Practitioners
American Veterinary Medical Association
Canadian Veterinary Medical Association
American Academy of Veterinary Nutrition
Society of Phi Zeta

Five Most Significant Publications

Malazdrewich, C., P. Thumbikat, M.S. Abrahamsen, and S.K. Maheswaran. 2004. Pharmacological inhibition of *Mannheimia haemolytica* lipopolysaccharide and leukotoxin-induced cytokine expression in bovine alveolar macrophages. *Microbial Pathogenesis* 2004; 36: 159-169.

This study explored strategies for pharmacological modulation of inflammatory cytokines in a bovine system. A variety of cytokine inhibiting drugs were tested for their ability to downregulate cytokine production by bovine alveolar macrophages, which are believed to initiate the pulmonary inflammatory response in pneumonic pasteurellosis.

Malazdrewich, C., P. Thumbikat, and S.K. Maheswaran. 2004. Protective effect of dexamethasone in experimental bovine pneumonic mannheimiosis. *Microbial Pathogenesis* 2004; 36: 227-236.

This study extended our previous work by examining the effect of cytokine-inhibiting drugs on disease pathogenesis. We showed that dexamethasone significantly reduced clinical disease and pulmonary pathology in calves experimentally infected with *Mannheimia haemolytica*. These findings support our hypothesis that pharmacological modulation of cytokines may represent a useful means of preventing disease among feedlot cattle.

Malazdrewich, C., T.R. Ames, M.S. Abrahamsen, and S.K. Maheswaran. 2001. Pulmonary expression of tumor necrosis factor-alpha, interleukin-1 beta, and interleukin-8 in the acute phase of bovine pneumonic pasteurellosis. *Veterinary Pathology* 2001; 38: 297-310.

This manuscript characterized pulmonary expression of inflammatory cytokines in cattle with pneumonic pasteurellosis, an economically important disease of North American cattle. Our findings supported the hypothesis that the host inflammatory response, rather than the causative bacterium itself, is primarily responsible for lung injury associated with this disease, and suggested that modulation of cytokines may represent a novel strategy for its treatment and prevention.

LaFleur, R.L., C. Malazdrewich, S. Jeyaseelan, E. Bleifield, M.S. Abrahamsen, and S.K. Maheswaran. 2001. Lipopolysaccharide enhances cytolysis and inflammatory cytokine induction in bovine alveolar macrophages exposed to *Pasteurella (Mannheimia) haemolytica* leukotoxin. *Microbial Pathogenesis* 2001; 30: 347-357.

This study extended our investigations of pulmonary inflammatory mechanisms in bovine pneumonic mannheimiosis. The manuscript characterized the effects of lipopolysaccharide and leukotoxin, the two major virulence factors of *Mannheimia haemolytica*, on functional properties of

alveolar macrophages. The findings suggested that these two virulence factors exert synergistic effects on host inflammatory responses and disease pathogenesis.

Leite, F., C. Malazdrewich, H.S. Yoo, S.K. Maheswaran, and C.J. Czuprynski. 1999. Use of TUNEL staining to detect apoptotic cells in the lungs of cattle experimentally infected with *Pasteurella haemolytica*. *Microbial Pathogenesis* 1999; 27: 179–185.

Pulmonary inflammation characterized by extensive neutrophil infiltration is a hallmark of bovine pneumonic manheimiosis, and destruction of these neutrophils is believed to mediate most of the pulmonary pathology associated with the disease. This manuscript demonstrated that apoptosis, or programmed cell death, is a significant process contributing to neutrophil destruction within the lungs of affected cattle.

Refereed Journal Publications and Book Chapters (Last Five Years)

Authored or co-authored 6 papers in peer-reviewed journals.

Invited Lectures

Equine endocrinology: Cushing's disease and metabolic syndrome. Horseman's Day, 50th Annual Convention of the American Association of Equine Practitioners, 2004.

Pulmonary expression of inflammatory cytokines in experimental bovine pneumonic pasteurellosis. 19th Annual Meeting of the Veterinary Medical Forum, American College of Veterinary Internal Medicine, 2001.

Pharmacological inhibition of inflammatory cytokine production by bovine alveolar macrophages. 19th Annual Meeting of the Veterinary Medical Forum, American College of Veterinary Internal Medicine, 2001.

Courses Taught (Last Five Years)

Designator	Name	Cr	% Effort	Term	Year
ANSC 3052	Equine Anatomy & Exercise Physiology	4	100	Fall	2004
ANSC 3xxx	Equine Health Management	4	100	Fall	2005

Campus Coordinator, ITV Courses offered from Crookston

ANSC 2102 - Horse Production (Fall semester)

ANSC 4102 - Equine Management (Spring semester)

Coordinator, Equine Option

Service

Member, Board of Directors, Minnesota Horse Council

Member, Board of Directors, Minnesota Foundation for Responsible Animal Care

Member, Steering Committee, University of Minnesota Equine Center

Member, Credentials Committee, American College of Veterinary Internal Medicine

Reviewer, Journal of Veterinary Internal Medicine

Member, Extension Service Horse and Forage Discussion Group

Member, Extension Service Rosemount Horse Discussion Group

Extension Activities (Last Five Years)

Equine endocrinology: Cushing's disease and metabolic syndrome. Horseman's Day, 50th Annual Convention of the American Association of Equine Practitioners, 2004.

Understanding equine medications. United States Pony Club Retreat, 2004.

Equine drug testing programs. United States Pony Club Retreat, 2004.

Consulting veterinarian for Veterinary Rounds, an online extension service provided by the American Association of Equine Veterinarians, 2002 – 2004

Youth Activities and Outreach

Faculty Advisor, Equestrian Club

Faculty Advisor, Pre-Veterinary Club