Viral gastroenteritis is the single most important cause of diarrhea in infancy world-wide and accounts for enormous morbidity and mortality in children in both the developing and developed worlds. Our laboratory is interested in the pathogenesis of viral gastroenteritis, specifically in intestinal factors which are critical to the outcome of rotavirus infection which range from asymptomatic viral shedding to severe clinical disease. Previous observations have shown that rotavirus has both a narrowly defined tissue tropism, essentially mature enterocytes of the intestinal villus tip, and a fairly narrow host range restriction, causing disease mainly in suckling animals and usually only with viral strains derived from the same host species. We believe that local gastrointestinal factors determine the outcome of rotavirus infection. Specific studies include:
1) Cell receptors for rotavirus are being identified and characterized by a variety of biochemical and immunological approaches.

2) Rotavirus penetration of target cell membranes. Work from our lab has shown that this is a critical step in determining host cell susceptibility to the virus.

3) Role of enteric secretions on rotavirus pathogenesis. Rotavirus requires exogenous trypsin for replication. We are studying the effects of gastrointestinal proteases and acid secretion on rotavirus pathogenesis in vitro and in vivo.

4) Role of intestinal mucins as a defense mechanism against rotavirus.

5) Mucosal immunity and protection from enteric viral pathogens.

Publications

PUBLICATIONS

- Out-of-pocket Cost Burden in Pediatric Inflammatory Bowel Disease: A Cross-sectional Cohort Analysis. INFLAMMATORY BOWEL DISEASES

- Association between lichen sclerosus and celiac disease: a report of three pediatric cases. Pediatric dermatology

- Association Between Lichen Sclerosus and Celiac Disease: A Report of Three Pediatric Cases. PEDIATRIC DERMATOLOGY

- Utilization Trends of Anti-TNF Agents and Health Outcomes in Adults and Children with Inflammatory Bowel Diseases: A Single-center Experience. Inflammatory bowel diseases

- Infliximab for the treatment of granulomatous peritonitis. Digestive diseases and sciences

- Cost-effectiveness of Universal Serologic Screening to Prevent Nontraumatic Hip and Vertebral Fractures in Patients With Celiac Disease. Clinical gastroenterology and hepatology

- Cost-Effectiveness of Early Colectomy With Ileal Pouch-Anal Anastomosis Versus Standard Medical Therapy in Severe Ulcerative Colitis. ANNALS OF SURGERY

- Cost-effectiveness Analysis of Adjunct VSL#3 Therapy Versus Standard Medical Therapy in Pediatric Ulcerative Colitis. JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION

- Acute Liver Failure and Aplastic Anemia in an 11-Year-Old Girl. DIGESTIVE DISEASES AND SCIENCES
  Yeh, A. M., Mojtabahd, A., Bass, D. 2011; 56 (8): 2237-2240

- Inflammatory Bowel Disease-Attributable Costs and Cost-effective Strategies in the United States: A Review. INFLAMMATORY BOWEL DISEASES
  Park, K. T., Bass, D. 2011; 17 (7): 1603-1609

- Immunophenotyping of Peripheral Eosinophils Demonstrates Activation in Eosinophilic Esophagitis. JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION
Proton Pump Inhibitor Treatment for Congenital Chloride Diarrhea

Pieroni, K. P., Bass, D.
2011; 56 (3): 673-676

Analysis of clinical variables associated with tolerance in pediatric liver transplant recipients

Talisetti, A., Hurwitz, M., Sarwal, M., Berquist, W., Castillo, R., Bass, D., Concepcion, W., Esquivel, C. O., Cox, K.
2010; 14 (8): 976-979

Increased HLA-DR Expression on Tissue Eosinophils in Eosinophilic Esophagitis

2010; 51 (3): 290-294

Increased Number of Regulatory T Cells in Children With Eosinophilic Esophagitis


Eotaxin and FGF enhance signaling through an extracellular signal-related kinase (ERK)-dependent pathway in the pathogenesis of Eosinophilic esophagitis.


Transcription Factors as Disease Indicators in Eosinophilic Esophagitis


Use of serologic markers as a screening tool in inflammatory bowel disease compared with elevated erythrocyte sedimentation rate and anemia

Sabery, N., Bass, D.
2007; 119 (1): E193-E199

Gastrointestinal bleeding

Nguyen, P. C., Garcia-Careaga, M., Bass, D.
2005; 44 (7): 641-643

Maturation and trafficking markers on rotavirus-specific B cells during acute infection and convalescence in children

2004; 78 (20): 10967-10976

Intestinal Imaging of children with acute rotavirus gastroenteritis

Bass, D., Cordoba, T., Dekker, T., Schuind, A., Cassady, J.
2004; 39 (3): 270-274
• Noncirrhotic portal hypertension in association with juvenile nephropathic cystinosis: Case presentation and review of the literature. *Journal of Inherited Metabolic Disease* DiDomenico, P., Berry, G., Bass, D., Fridge, J., Sarwal, M.
2004; 27 (5): 693-699

2002; 35 (1): 64-68

2002; 25 (14): 1021-1033

• Proteolytic processing of the astrovirus capsid. *Journal of Virology* Bass, D. M., Qiu, S. Q.
2000; 74 (4): 1810-1814

• Lack of a role for type I and type II interferons in the resolution of rotavirus-induced diarrhea and infection in mice. *Journal of Interferon and Cytokine Research* Angel, J., Franco, M. A., Greenberg, H. B., Bass, D.
1999; 19 (6): 655-659

• Travel vaccines. *Infectious Disease Clinics of North America* Thompson, R. F., Bass, D. M., Hoffman, S. L.
1999; 13 (1): 149-?

1998; 36 (9): 2571-2574

• Celiac disease presenting as gait disturbance and ataxia in infancy. *24th Annual Meeting of the Child-Neurology-Society* Hahn, J. S., Sum, J. M., Bass, D., Crowley, R. S., Horoupian, D. S.
SAGE PUBLICATIONS INC.1998: 351–53

• Studies of the role for NSP4 in the pathogenesis of homologous murine rotavirus diarrhea. *Journal of Infectious Diseases* Angel, J., Tang, B. Z., Feng, N. G., Greenberg, H. B., Bass, D.
1998; 177 (2): 455-458

• Wernicke encephalopathy and Beriberi during total parenteral nutrition attributable to multivitamin infusion shortage. *Pediatrics* Hahn, J. S., Berquist, W., Alcorn, D. M., Chamberlain, L., Bass, D.
1998; 101 (1)

1997; 71 (11): 8666-8671

1997; 100 (5): 1204-1208

• Interferon gamma and interleukin 1, but not interferon alfa, inhibit rotavirus entry into human intestinal cell lines. *Gastroenterology* Bass, D. M.
1997; 113 (1): 81-89

• Viral infections of the gastrointestinal tract. *Current Opinion in Gastroenterology* Bass, D.
1996; 12 (1): 76-81


