

BE PERSISTENT! TO KICK PERSISTENT NOROVIRUS!

MELISSA RAE LEBLANC MD, ALAN HUNTER MD AND STEPHANIE HALVORSON, MD
OREGON HEALTH & SCIENCE UNIVERSITY, PORTLAND, OREGON



INTRODUCTION:

- There are many causes of infectious diarrhea in immunocompromised hosts
- Norovirus, a highly contagious RNA enterovirus, usually causes self limited diarrhea.
- In the immunocompromised can become chronic, lasting months, even years.
- Novel therapies exist aside from supportive care to try to aid in clearance of this chronic infection

CAUSES OF INFECTIOUS DIARRHEA IN IMMUNOCOMPROMISED HOST

Bacteria	Mycobacterium	Parasites	Viruses	Fungi
Salmonella Shigella Campylobacter Clostridium difficile Chlamydia trachomatis Escherichia coli	Mycobacterium Avium Complex Mycobacterium tuberculosis	Cryptosporidium Cytoisopora belli Giardia lamblia Entamoeba histolytica Blastocystis hominis Cyclospora Strongyloides stercoralis	Cytomegalovirus Adenovirus Rotavirus Norovirus Herpes simplex HIV	Microsporidium Histoplasmosis Candida

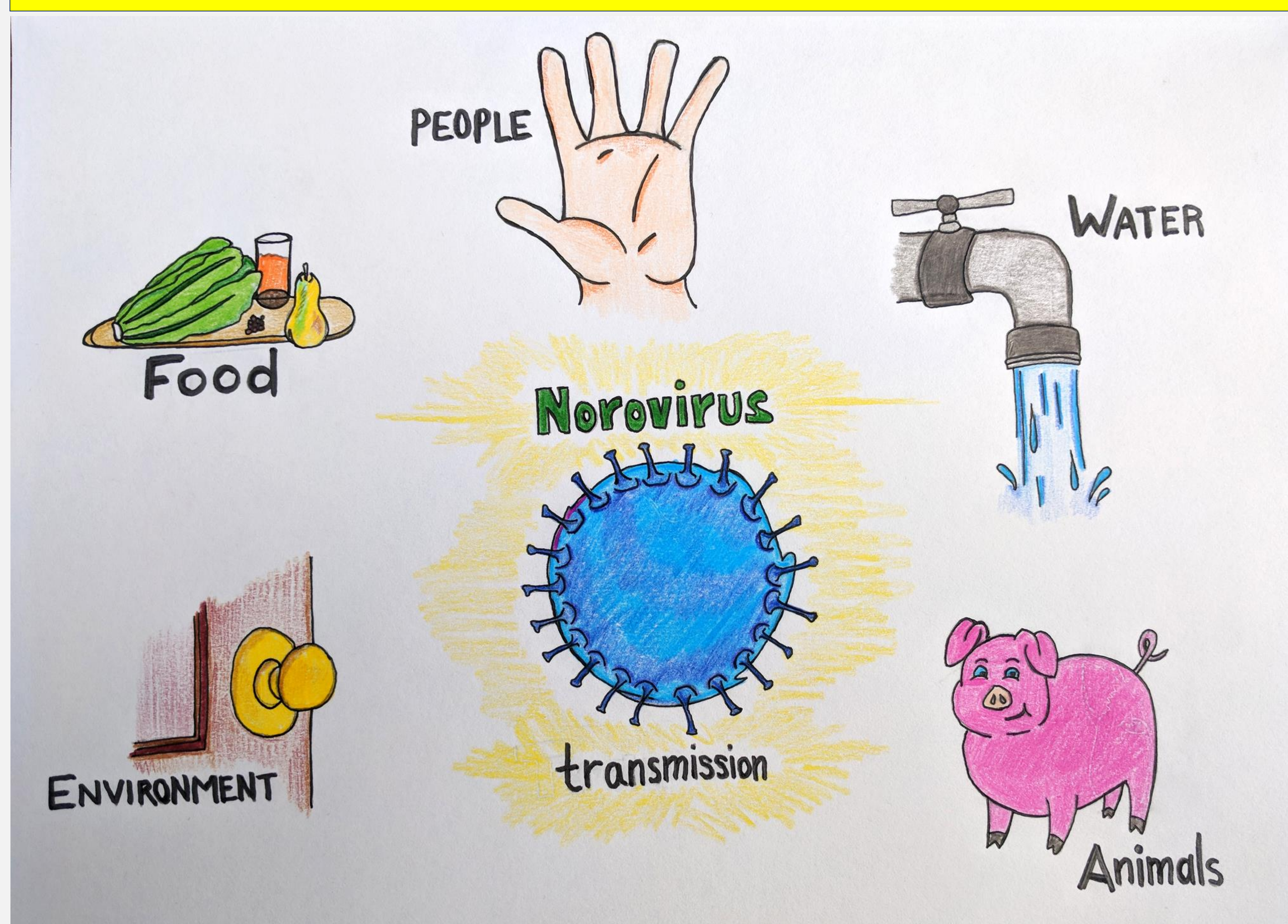
DISCUSSION:

- There are many causes of infectious diarrhea in immunocompromised hosts, if they aren't improving be sure you have thought through the differential and ruled out all causes
- There are minimal therapeutic strategies for treatment of chronic norovirus
 - Reduction in immunosuppression^{1,2}
 - which often does not work in isolation
 - Change from calcineurin inhibitor (tacrolimus) to mTOR inhibitor (everolimus)³
 - Thought to reduce viral replication
 - Nitazoxanide an antimicrobial agent
 - thought to improve viral clearance^{4,5,6}
 - Oral Human Immunoglobulin (OHIG) has been used in several case series^{7,8,9}
- Chronic Norovirus can last for years and greatly affect quality of life thus having an awareness of the tools available can be helpful

CASE PRESENTATION:

- An elderly immunosuppressed women presents with 3 weeks protracted norovirus gastroenteritis
- Medical History:
 - Bilateral lung transplantation due to COPD
 - Immunosuppressive therapy
 - Tacrolimus
 - Mycophenolate
 - Prednisone
 - Prior acute rejection, current chronic low grade rejection
 - Solitary Kidney
- Course complicated by:
 - Acute Kidney Injury
 - Supratherapeutic Tacrolimus level
 - Marked non-gap metabolic acidosis requiring bicarbonate drip
- Therapeutic Interventions:
 - Supportive care for symptoms and acidosis
 - Reduction in Immunosuppression → no benefit in symptoms
 - Two rounds of OHIG → improved symptoms, resolution of AKI and metabolic acidosis

TRANSMISSION OF NOROVIRUS



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