

Background

We describe a unique case where oral immunoglobulin (IG) was used as treatment for chronic Norovirus infection in an immunocompromised individual.

Case Presentation

A 75 year-old female with cadaveric renal transplant 10 years prior (on immunosuppression) presented with acute right flank pain, worsening fatigue and unintentional weight loss of 80 lbs for over a year. She was tachycardic and hypotensive with a non-tender right lower quadrant renal transplant.

Laboratories showed a bicarbonate of 12 mEq/L, blood urea nitrogen of 35 mg/dL, creatinine of 2.4 mg/dL (baseline creatinine 0.9) and white blood cell count of 4.4 K/mcL. Urine studies showed 3+ protein. Tacrolimus level was appropriate.

A renal ultrasound was nonspecific, revealing mildly elevated resistive indices measuring between 0.8-0.9 suggestive of transplant dysfunction. Serology for Epstein-Barr virus and Cytomegalovirus was negative. Renal biopsy was obtained and was not consistent with rejection.

Over the past year, she had painless intermittent diarrhea often requiring hospitalization. A positive stool viral PCR for Norovirus from 6 months ago was discovered on hospital records. On current admission, stool pathogens were negative except for Norovirus.

She was treated with oral IG with a decrease in diarrhea. Her creatinine improved to 1.3.

Fig. 1-4 Stool Norovirus PCR samples

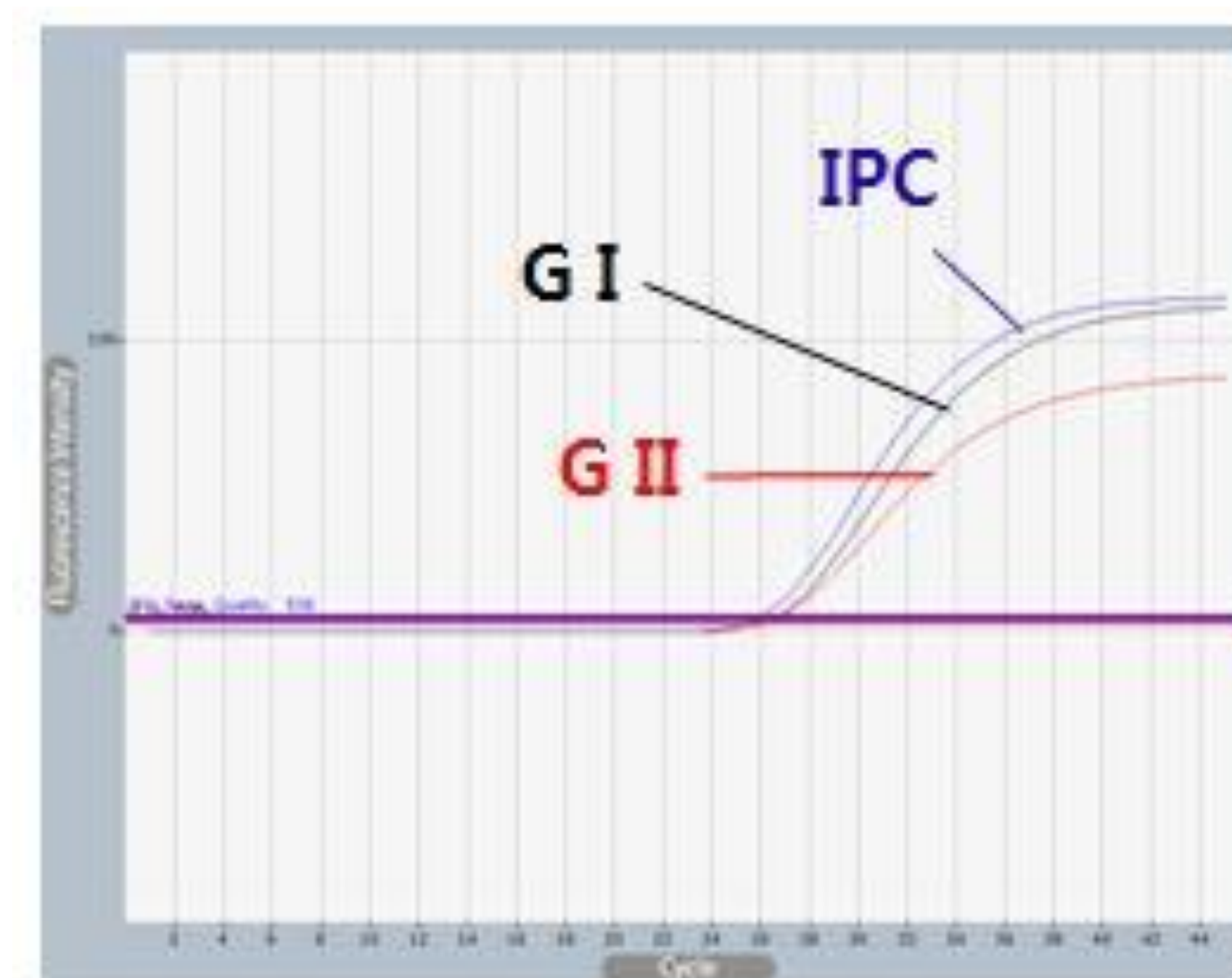


Fig 1. Positive Control



Fig 2. No Template Control

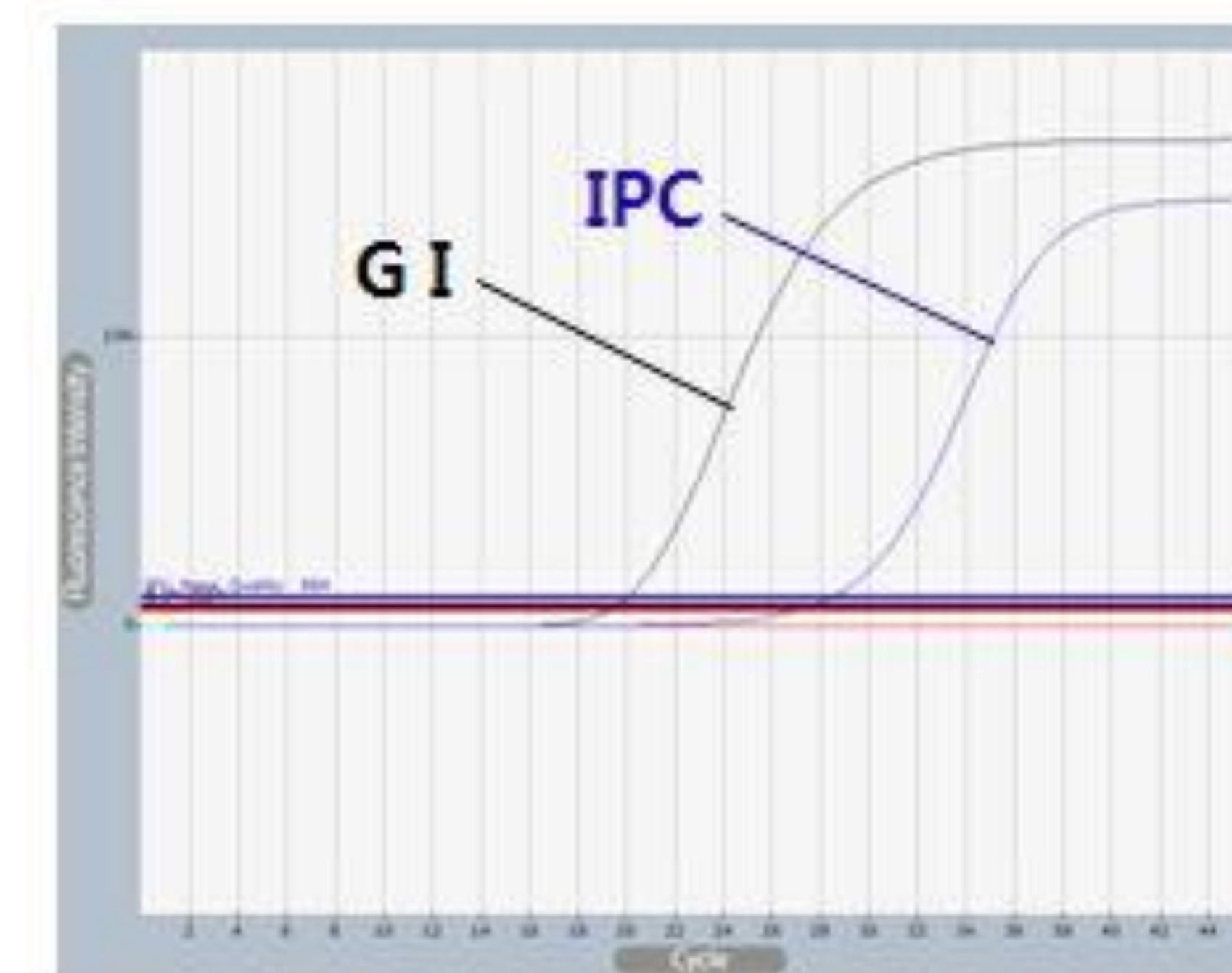


Fig 3. G I Positive Sample

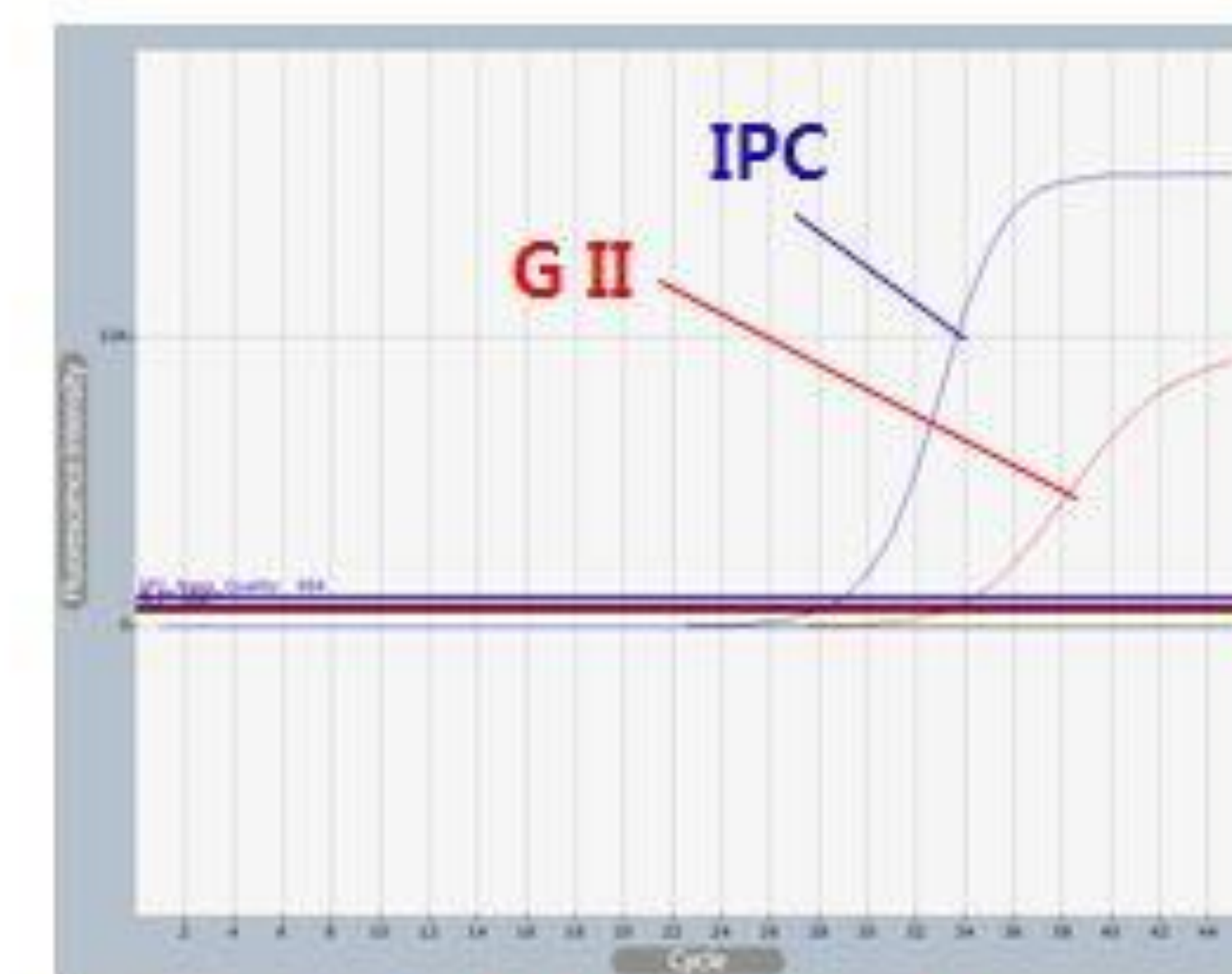
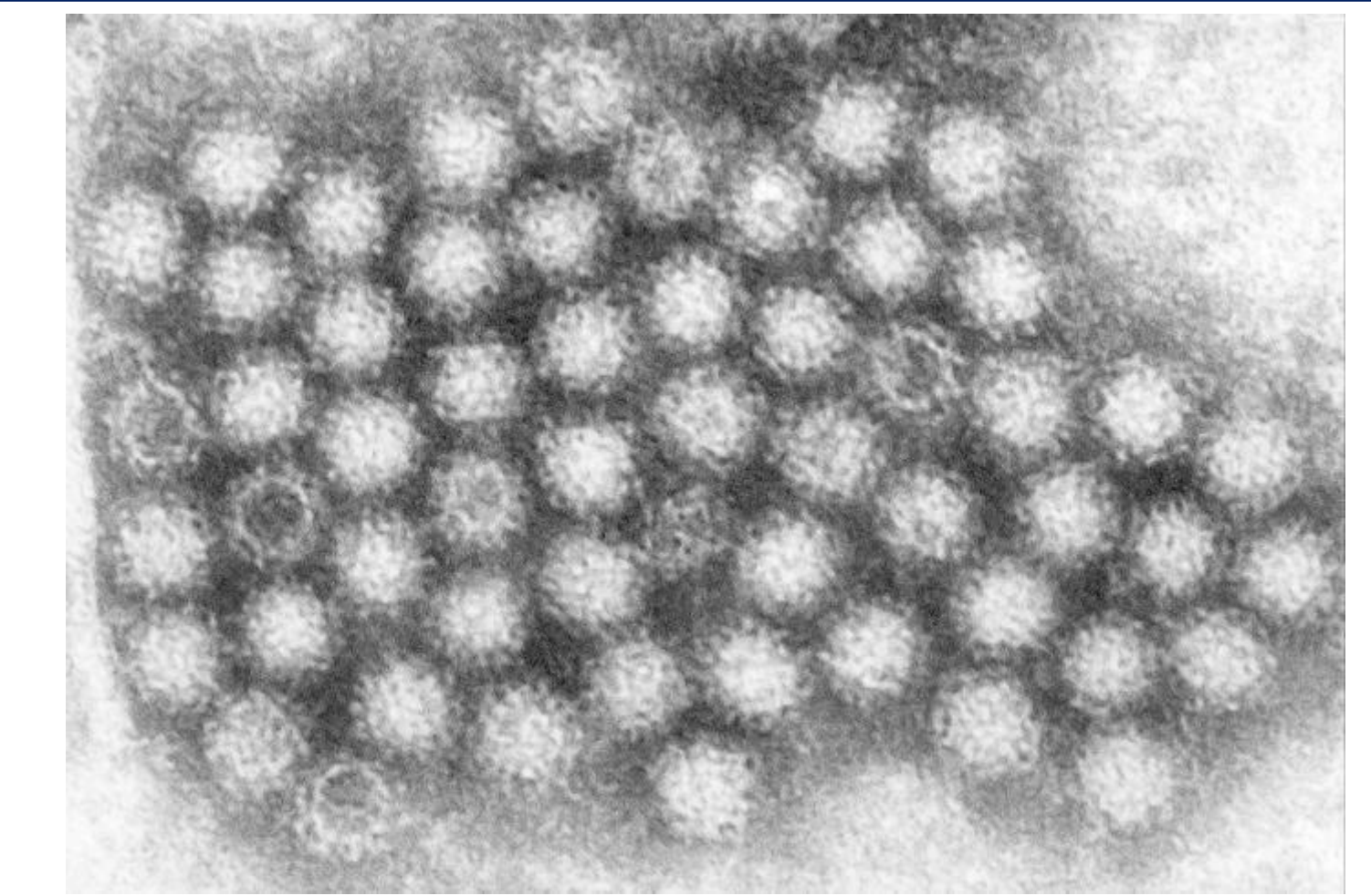


Fig 4. G II Positive Sample

Fig. 5 Norovirus Electron Micrograph



Discussion

Norovirus infection in immunocompromised individuals can lead to prolonged symptoms and viral shedding for many years.

Currently, there are no approved human antiviral agents that are effective against Norovirus.

Treatment using oral IG was extrapolated from its role in management of primary immunodeficiency conditions.

In this case, viral shedding continued but oral IG provided symptomatic relief, decreasing the progression of kidney injury.

Physicians should be made aware of this particular presentation and the treatment options in renal transplant patients.

References

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