



# Nitazoxanide Treatment of Intestinal Cryptosporidiosis Following Hematopoietic Stem Cell Transplantation

Lily Jones, D.O., Abraham T. Yacoub, M.D, Domenico Coppola, M.D., Kevin Smith, M.D., Ramon L. Sandin, M.D., M.S., F.C.A.P, Albert L. Vincent, Ph.D., John N. Greene, M.D. F.A.C.P.

University of South Florida, Morsani College of Medicine, Division of Infectious Disease and International Medicine



## BACKGROUND

- Diarrhea caused by the protozoa *Cryptosporidium* has been well documented and studied in patients with human immunodeficiency virus infection (HIV).
- *Cryptosporidium* has recently been reported as the causative agent of diarrheal illness in immunosuppressed patients without HIV infection.<sup>1-3</sup>
- In this study, we reported two cases of cryptosporidiosis in hematopoietic stem cell transplanted patients and reviewed the literature on previously reported cases.

## METHOD

- We compared four studies of cryptosporidiosis in the immunosuppressed, non-HIV patients.
- Our study including two case series from Moffitt Cancer Center in Tampa, Florida was compared with three previously published studies in the literature including an observational study from India,<sup>1</sup> a prospective single study from France,<sup>2</sup> and a retrospective study from Israel.<sup>3</sup>

## RESULT

- Twenty patients were included in our comparative analysis.
- The age of patients ranged 0-61 years, the median age is 23 years.
- All patients were immunocompromised from either malignancy or organ transplantation.
- Six patients had solid organ transplant (SOT), 6 with acute myelogenous leukemia (AML), 4 with acute lymphocytic leukemia (ALL), 2 with chronic myelogenous leukemia (CML), 1 patient with carcinoma of the cervix, and 1 patient with sarcoma of the uterus.
- Only eight of the twenty patients received treatment with nitazoxanide. Patients who received therapy had less complications and more likely to resolve the infection.

Figure 1 – Cryptosporidia trophozoites seen at 40X magnification with Giemsa stain from a colon biopsy of our patient following HSCT for leukemia

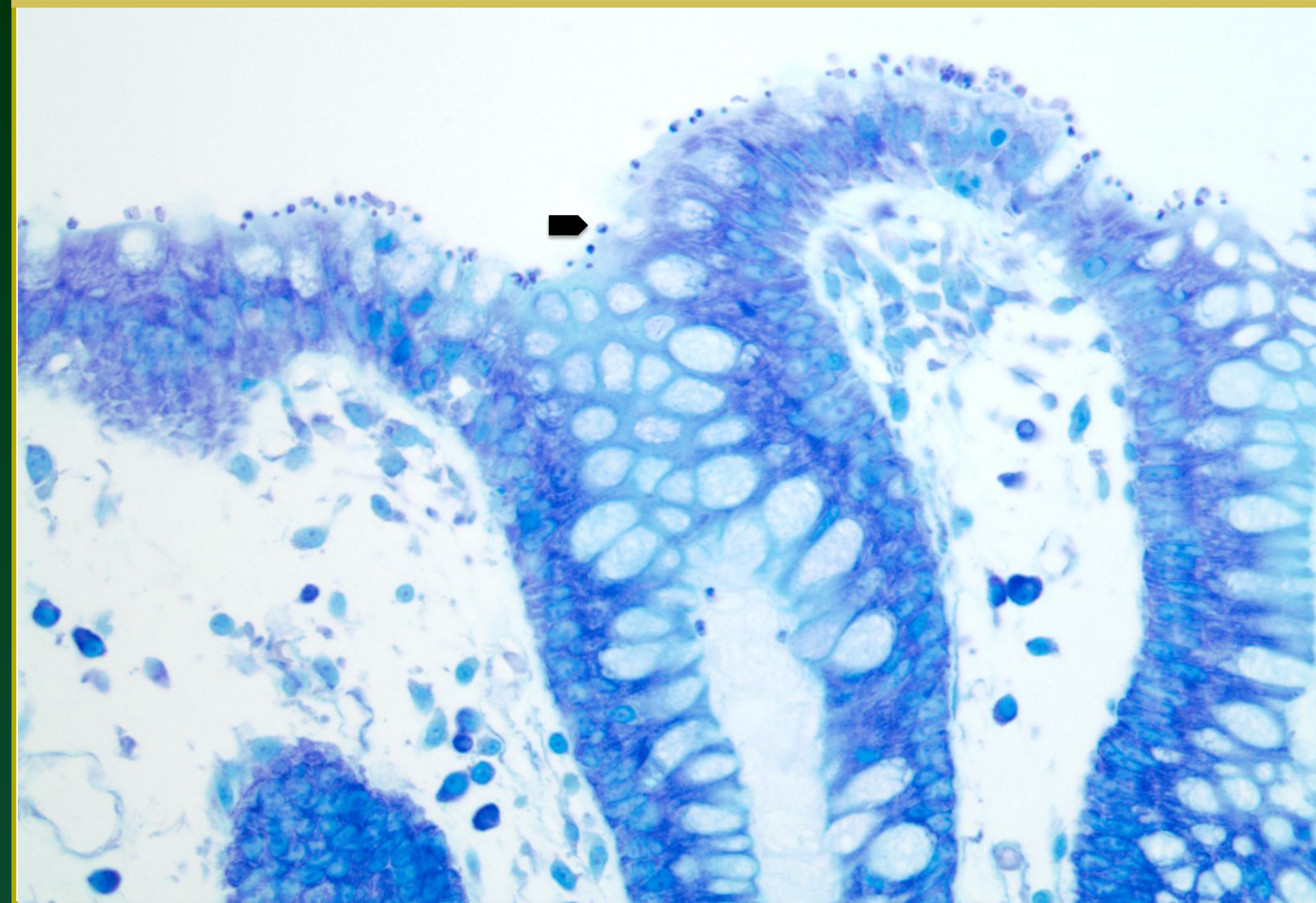
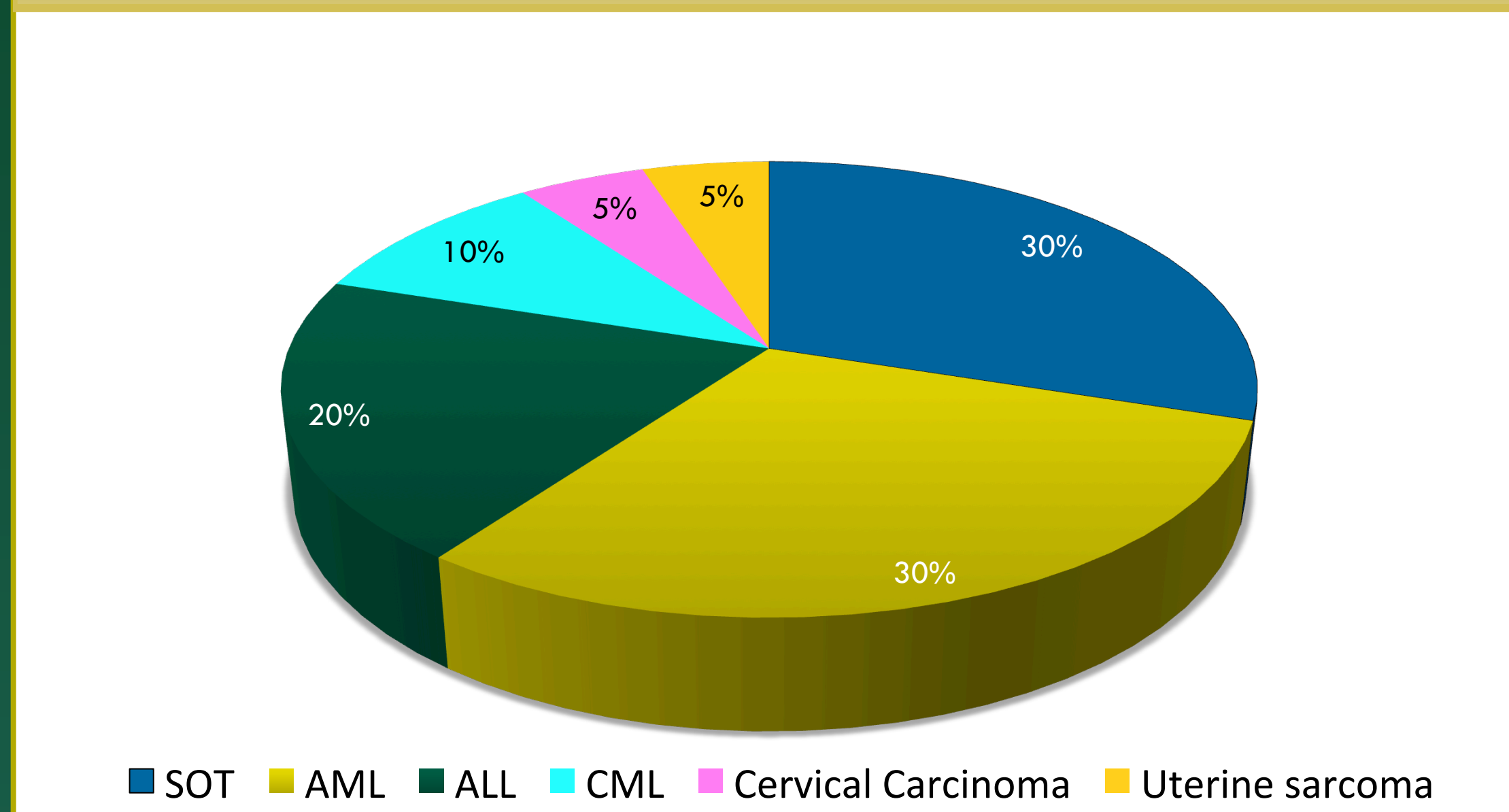


Figure 2- Distribution of Cryptosporidium Infection among Non-HIV Immunosuppressed Patients



## CONCLUSION

- Patient undergoing HSCT and chemotherapy most likely encounter episodes of chronic infectious diarrhea.
- Cryptosporidiosis should be considered in the differential diagnosis of chronic diarrhea in this patient population and must be differentiated from chronic graft versus host disease, as the treatment of both is profoundly different.
- Nitazoxinide is recommended for treatment of cryptosporidiosis in this population.<sup>4</sup>
- A long course of therapy (as long as 12 weeks) may sometimes be necessary to prevent disease relapse.

## REFERENCES

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## QUESTION INQUIRY

LILY N. JONES, DO  
 USF Infectious Disease Fellow  
 ljones8@health.usf.edu