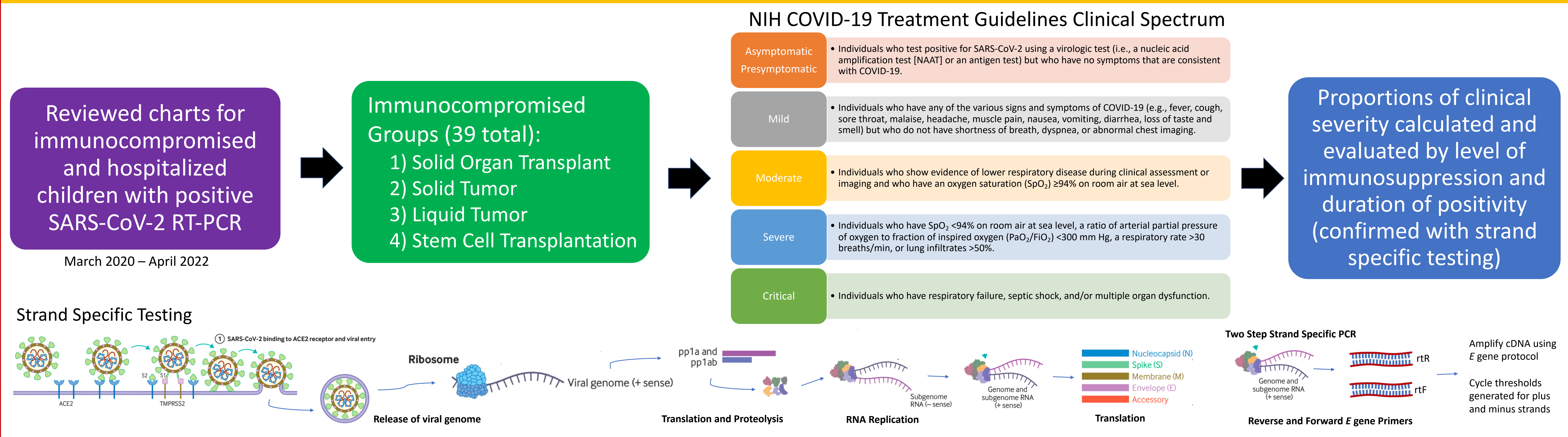


INTRODUCTION

- SARS-CoV-2 virus has caused severe disease globally with initial reports supporting that immunocompromised individuals are at higher risk for severe disease
- There is limited data on COVID-19 disease severity in immunocompromised children and some studies suggest that SARS-CoV-2 may not cause worse clinical outcomes in immunosuppressed children
- In this study we characterize our pediatric experience of immunocompromised individuals that were hospitalized with acute SARS-CoV-2 infection

METHODOLOGY

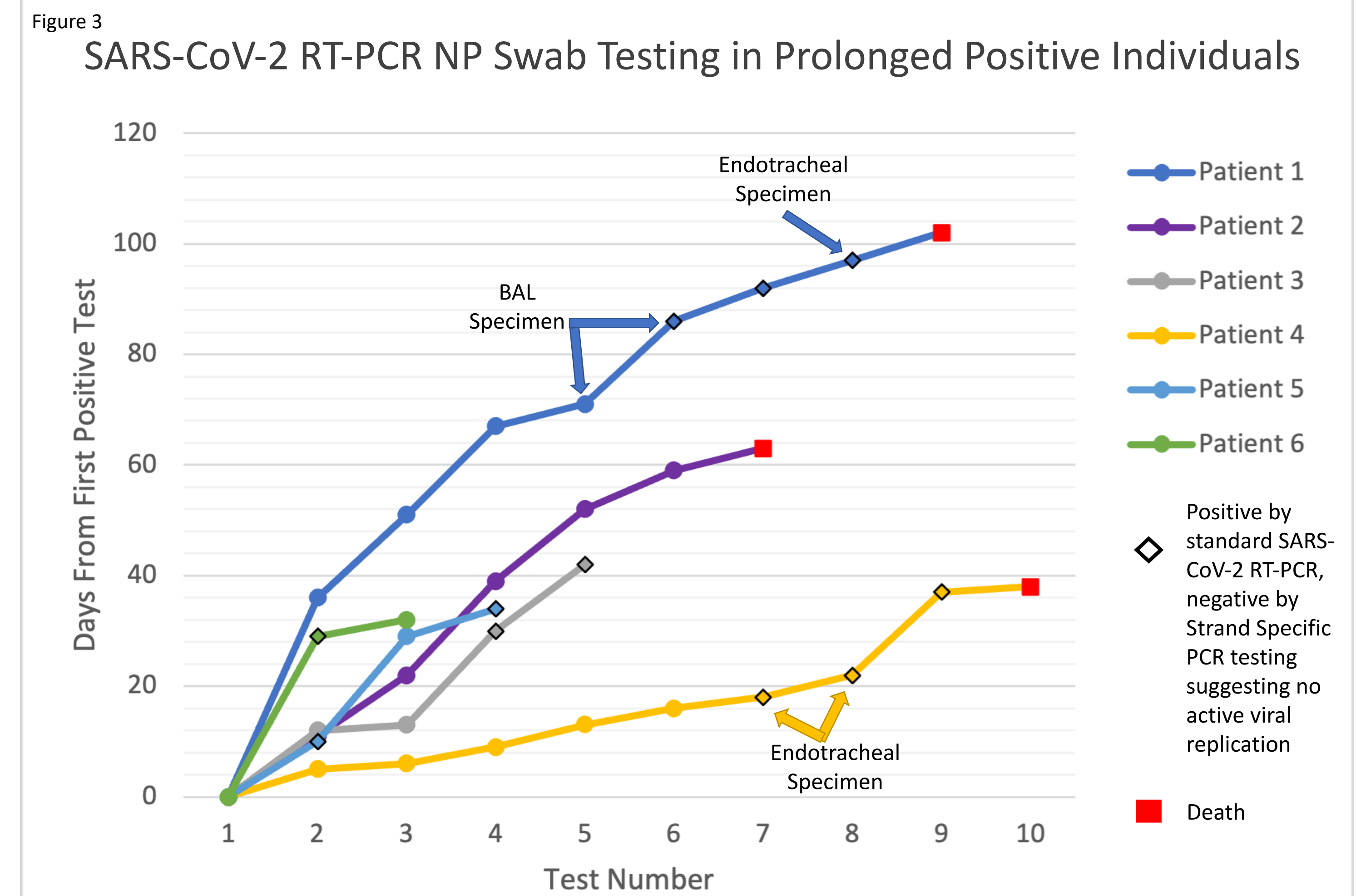
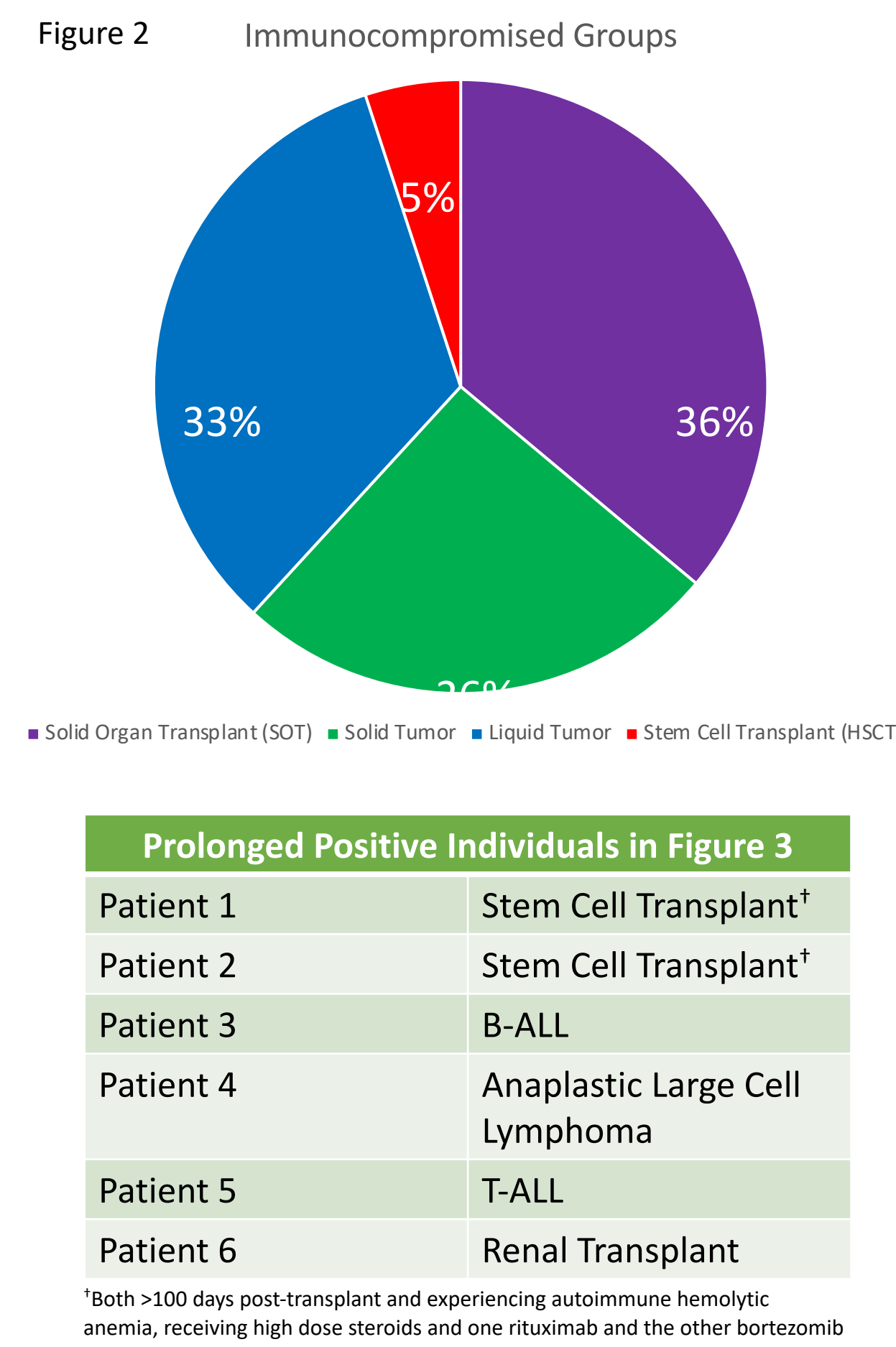


RESULTS AND DISCUSSION

Figure 1

Immunocompromised Individuals (n=39)	Solid Organ Transplant (n=14)	Solid Tumor (n=10)	Liquid Tumor (n=13)	Stem Cell Transplant (n=2)	Prolonged Positives* (n=6)	Total (n=39)
Median Age (Years)	12.9 (0.64-21.2)	4.5 (1.8-16.7)	10.4 (5.3-20.3)	17.7 (17.6-17.9)	9.5 (8.0-17.9)	10 (0.64-21.2)
Gender:						
Male	31% (4/13)	36% (4/11)	46% (6/13)	50% (1/2)	17% (1/6)	38% (15/39)
Female	69% (9/13)	64% (7/11)	54% (7/13)	50% (1/2)	83% (5/6)	62% (24/39)
Vaccinated for COVID-19	15% (2/13)	9% (1/11)	31% (4/13)	None	None	18% (7/39)
Monoclonal Antibody Treatment	31% (4/13)	36% (4/11)	23% (3/13)	50% (1/2)	50% (3/6)	31% (12/39)
Remdesivir Treatment	15% (2/13)	36% (4/11)	46% (6/13)	100% (2/2)	83% (5/6)	36% (14/39)
Steroid therapy for COVID-19	0%	0%	31% (4/13)	100% (2/2)	67% (4/6)	15% (6/39)
Immunosuppression:						
Mild	54% (7/13)	-	15% (2/13)	-	33% (2/6)	23% (9/39)
Moderate	23% (3/13)	18% (2/11)	54% (7/13)	-	33% (2/6)	31% (12/39)
Severe	23% (3/13)	82% (9/11)	31% (4/13)	100% (2/2)	33% (2/6)	46% (18/39)
COVID-19 Severity:						
Asymptomatic/mild	100% (14/14)	100% (10/10)	69% (9/13)	-	33% (2/6)	85% (33/39)
Severe/Critical	-	-	31% (4/13)	100% (2/2)	67% (4/6)	15% (6/39)

*Subset of individuals with symptomatic infection and prolonged replicating virus confirmed by strand specific RT-PCR testing



DISCUSSION:

- All solid organ transplant recipients and solid tumor individuals had mild disease with favorable outcomes
- 15% of immunocompromised and hospitalized had severe/critical COVID-19 disease compared to 23% of the total population of children hospitalized at our center⁶
- There was no significance between COVID-19 severity and level of immunosuppression ($\chi^2(2, n=39)=1.6, p=.43$)
- There was a subset of 6 patients that were symptomatic with confirmed prolonged replication of SARS-CoV-2
 - 3 of these patients died; 2 received high dose steroid therapy, 1 received rituximab, 1 received bortezomib, and 1 received lorlatinib
- Further studies are indicated on the effect of specific immunosuppressive therapies and COVID-19 disease in immunocompromised children
- The strand specific RT-PCR allows us to test for replicating virus instead of virus shedding in immunocompromised individuals and can be helpful for isolation precautions and when experiencing prolonged symptoms in severe/critical disease

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