

Marco Yeung, B.Sc.(Pharm.); Sandy H.S. Mok, B.Sc.(Pharm.), ACPR; Claire MacLeod, B.Sc.(Pharm.), ACPR, Pharm.D.; Brandi Newby, B.Sc.(Pharm.), ACPR

## Background

- Red man syndrome (RMS) is an infusion related reaction associated with IV vancomycin
- Variable incidence of RMS in pediatric studies (1.6 to 38%)
- Best management of RMS in pediatrics is unclear

## Objectives

- Determine the incidence of RMS in pediatric patients at Surrey Memorial Hospital (SMH)
- Identify vancomycin doses associated with RMS
- Identify clinical features leading to the diagnosis of RMS
- Identify interventions used to treat and/or prevent RMS

## Methods

- Chart Review
  - June 2014 to May 2017
  - Pediatric unit at SMH
- Inclusion
  - Received at least 1 dose of IV vancomycin
- Exclusion
  - Less than 45 weeks post-menstrual age (PMA)
  - 17 years or more
- Analysis
  - Descriptive statistics
  - Pearson's correlation coefficient to assess correlation between vancomycin dose and RMS incidence

## Results

Characteristic	Mean ± SD (range)
Age (years)	4.8 ± 5.1 (0.1 to 16.7)
Male (%)	53.6
Weight (kg)	21.1 ± 18.9 (4.0 to 88.4)
Vancomycin dose (mg/kg/dose)	20 ± 3 (13 to 35)

Table 1: Patient Demographics (N = 151)

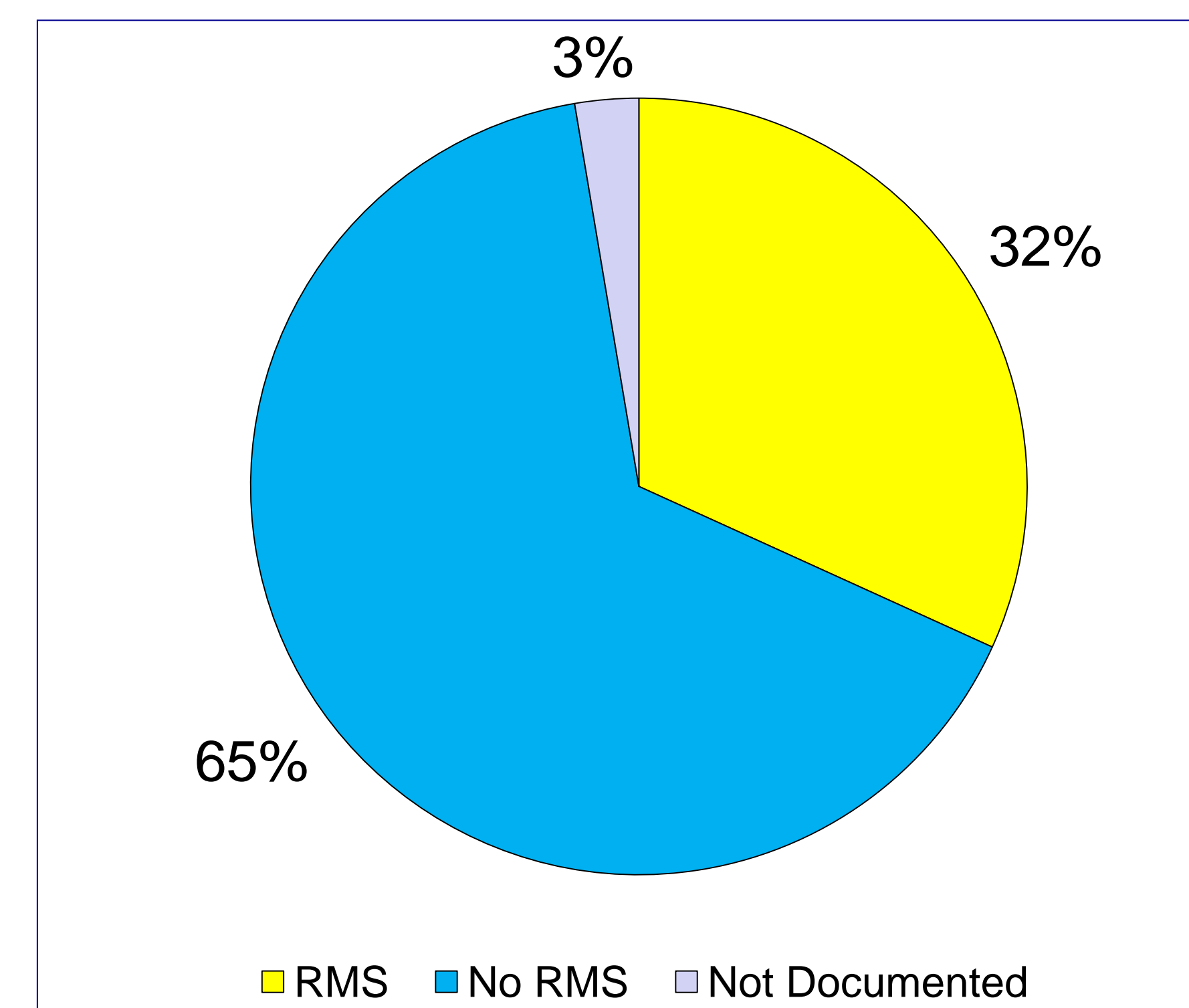


Figure 2: Incidence of RMS (N = 151)

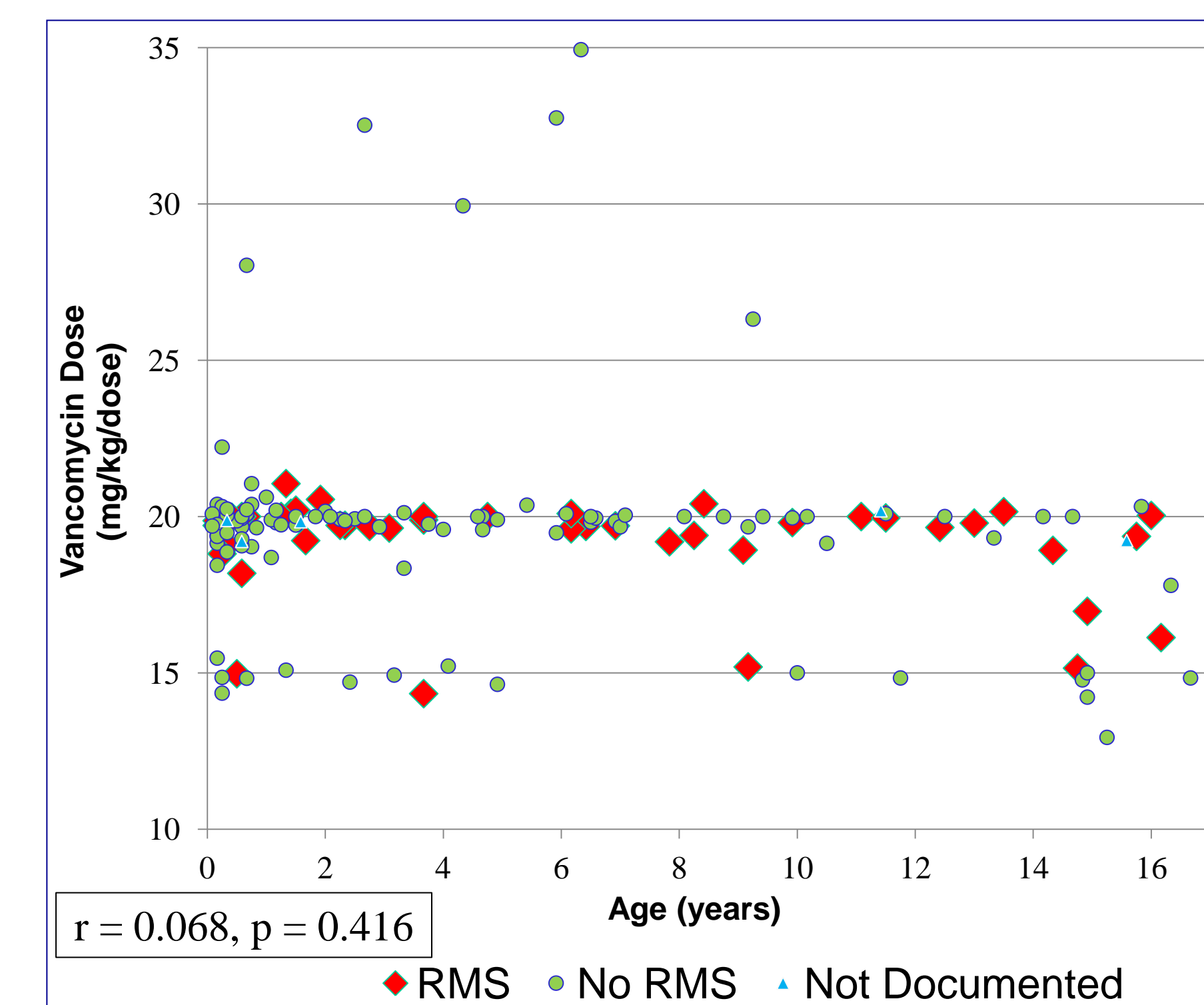


Figure 3: Vancomycin Dose (N = 151)

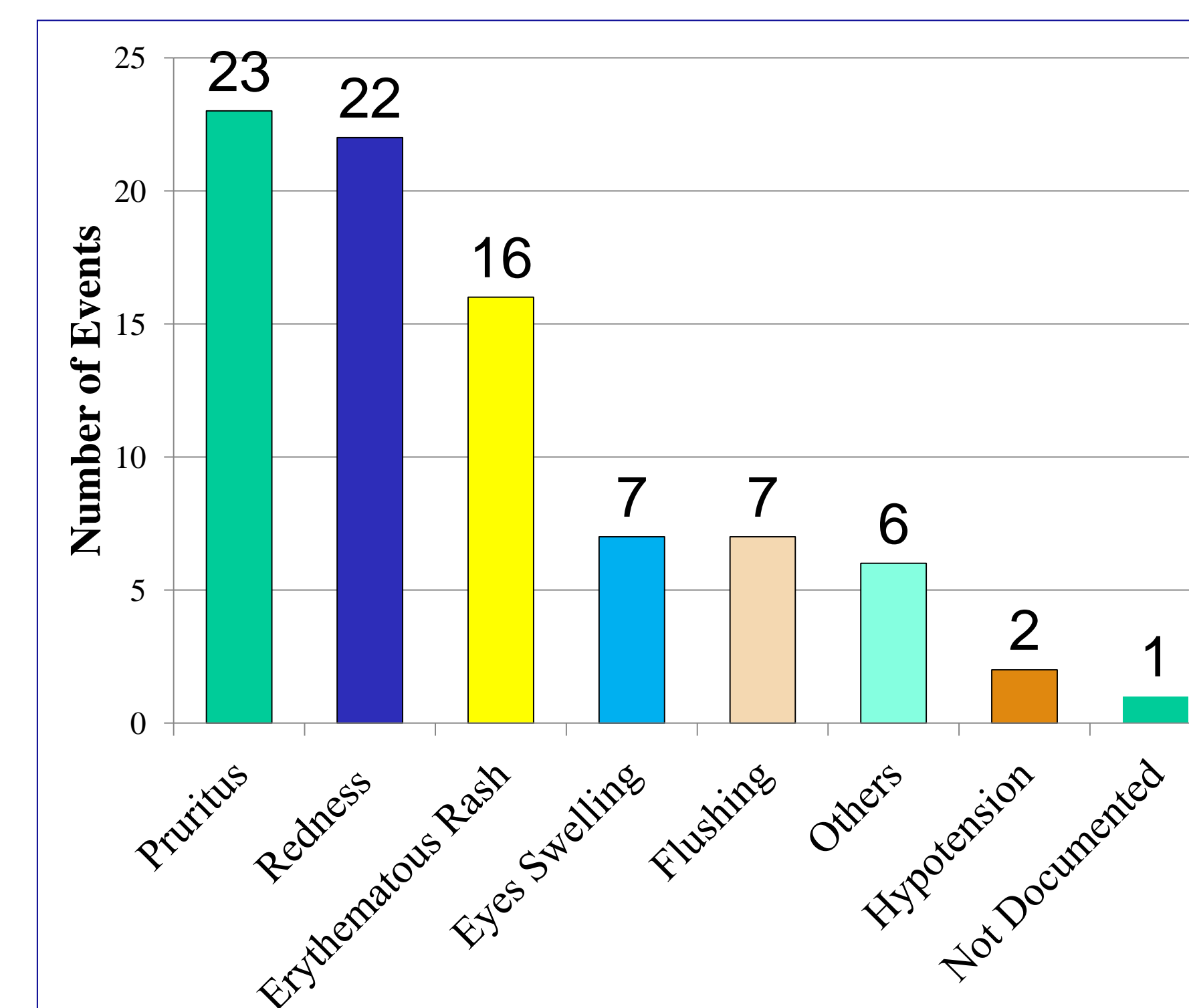


Figure 4: Clinical Features of RMS (n = 48)

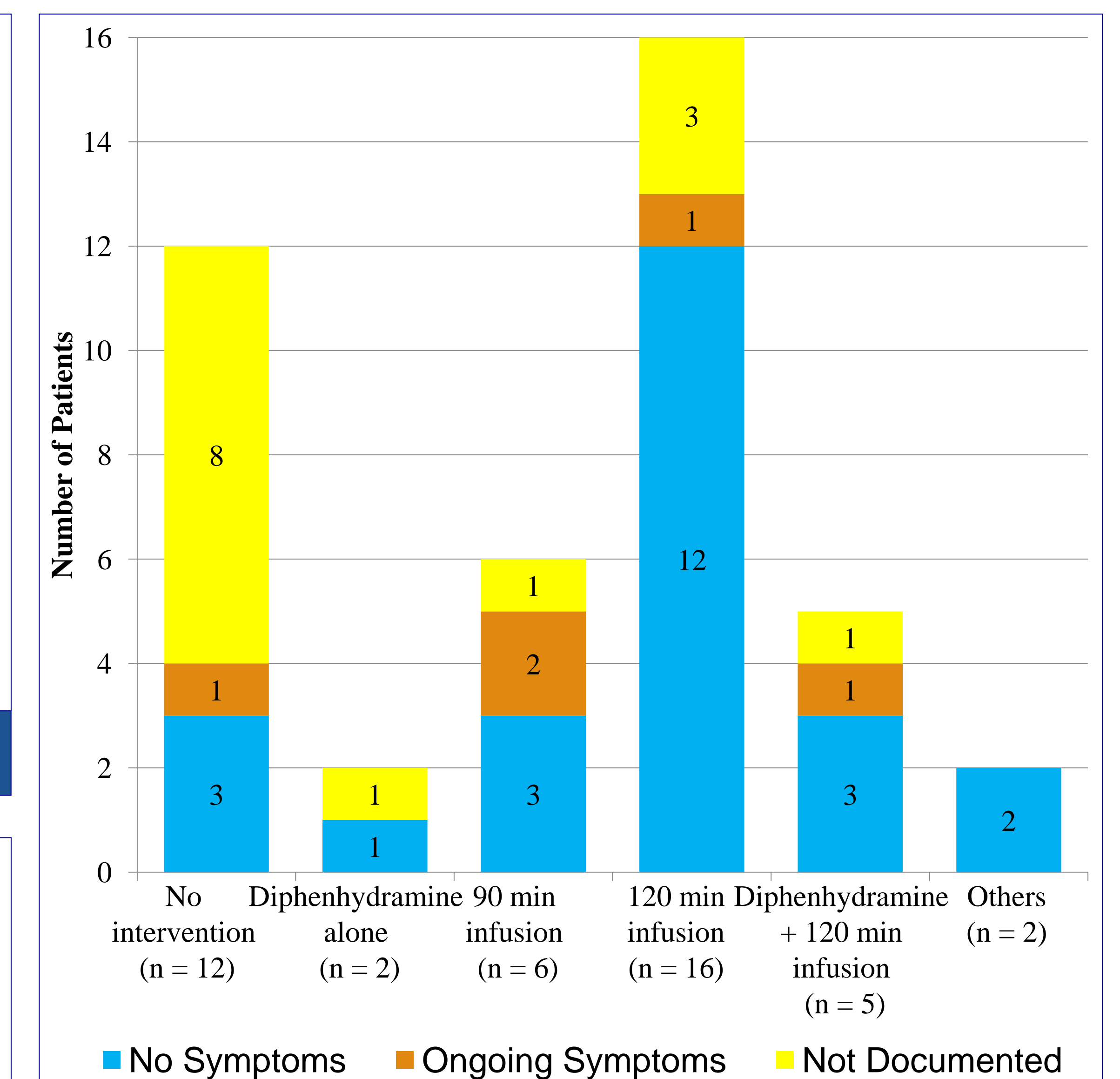


Figure 6: Interventions Used to Prevent RMS (n = 43)

## Limitations

- Retrospective, single-centre
- Small sample size
- Results of RMS treatment and prevention were not frequently documented

## Conclusions

- 32% of pediatric patients who received vancomycin at SMH developed RMS
- Vancomycin dose did not correlate with the development of RMS
- Common clinical features leading to RMS diagnosis were pruritus, redness and erythematous rash
- Interventions used to treat and prevent RMS were inconsistent
- Prolonging infusion to 120 minutes led to the highest rate of RMS prevention

## Results

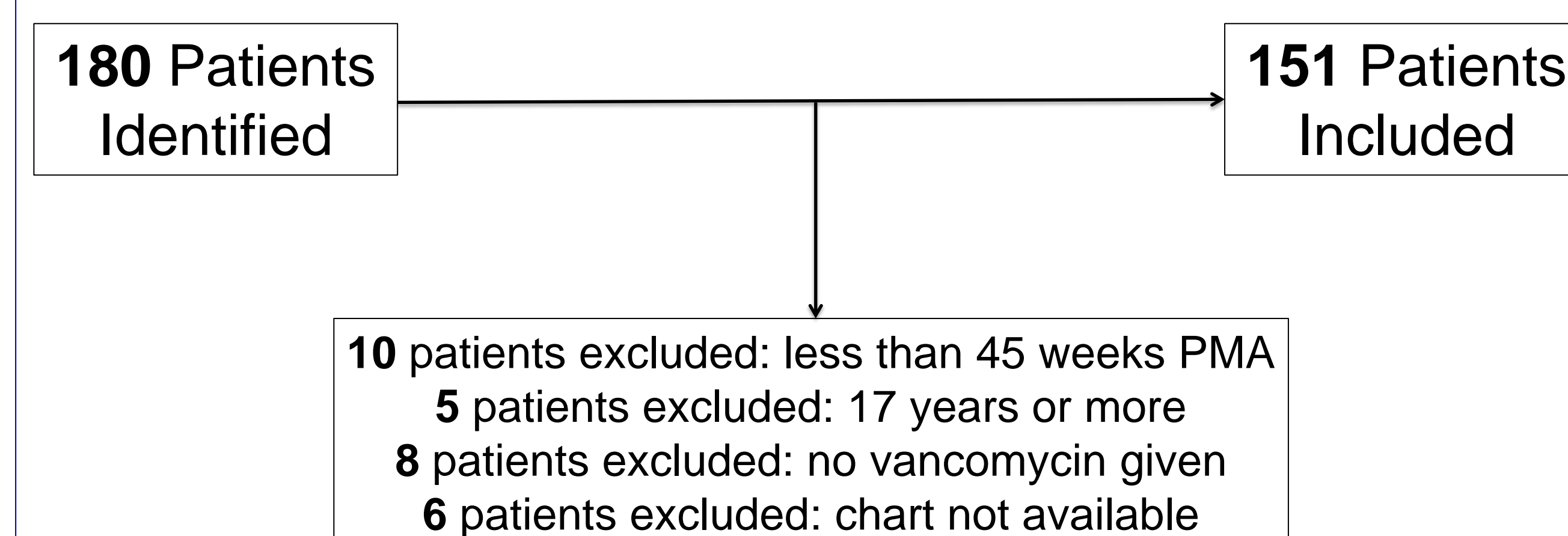


Figure 1: Patient Inclusion Flowchart

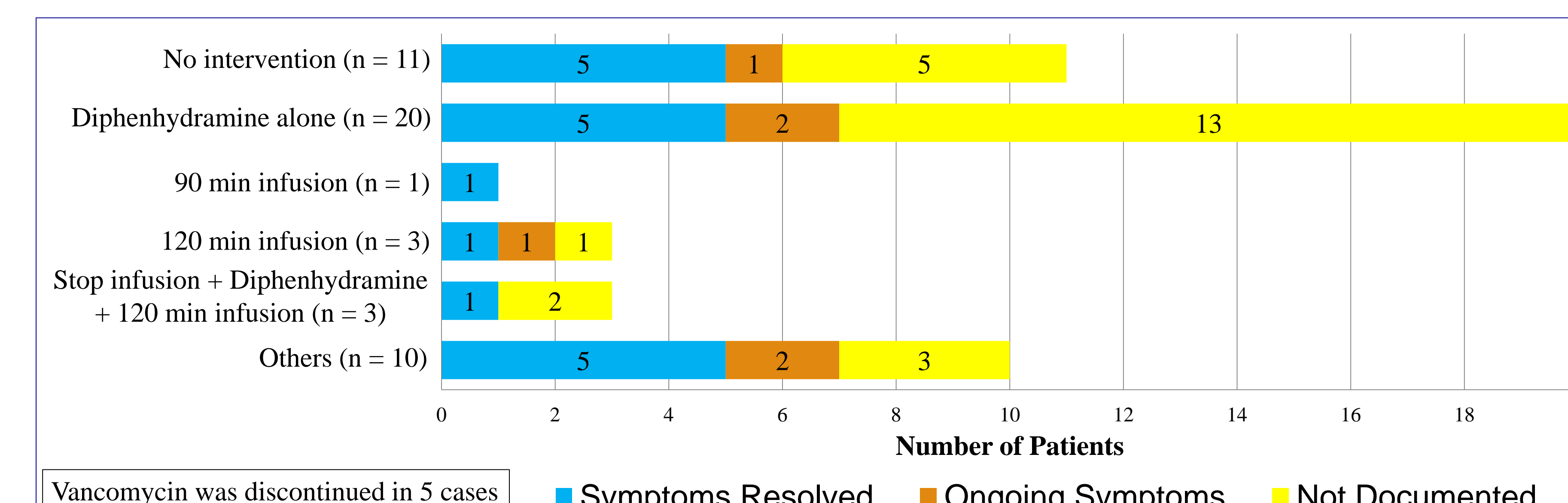


Figure 5: Interventions Used to Treat RMS (n = 48)