

### BACKGROUND

- A common inpatient drug-drug interaction of interest arises with daptomycin and hydroxymethylglutaryl-coenzyme A (HMG CoA) reductase inhibitors, or statins, due to the enhanced risk of muscle damage with concomitant administration.
- The mechanism of action for this interaction is debated
- Statins are a commonly prescribed medication class for the primary and secondary prevention of ASCVD events<sup>1</sup>
- Daptomycin is a cyclic lipopeptide antibiotic typically indicated for severe gram-positive infections<sup>2</sup>
- The current daptomycin package insert recommends clinicians consider temporarily suspending the use of statins while daptomycin is being administered<sup>3</sup>

### OBJECTIVE

- To evaluate if patients admitted on statin therapy receive co-administration with daptomycin and the resulting effects on creatine phosphokinase (CPK) lab values

### METHODS

#### Study Design

- Retrospective chart review

#### IRB Approval

- Springfield Committee for Research Involving Human Subjects Institutional Review Board

#### Data Source

- 500 bed teaching hospital in Springfield, Illinois

#### Study Population

- Age 40 years old or older
- Admitted on a home medication of a statin
- Received at least 5 consecutive days of inpatient daptomycin therapy

#### Study Measures

- Primary Endpoint
  - Home medication statin status while receiving inpatient daptomycin therapy

### METHODS

- Secondary Endpoint
  - CPK lab values and incidence of elevations
- Other Data Collected for Analysis
  - Statin intensity
  - Reason for discontinuing any study drug
  - ASCVD status (clinical or risk)

#### Data Analysis

- Descriptive statistics

### RESULTS

- 82 participants included in this study

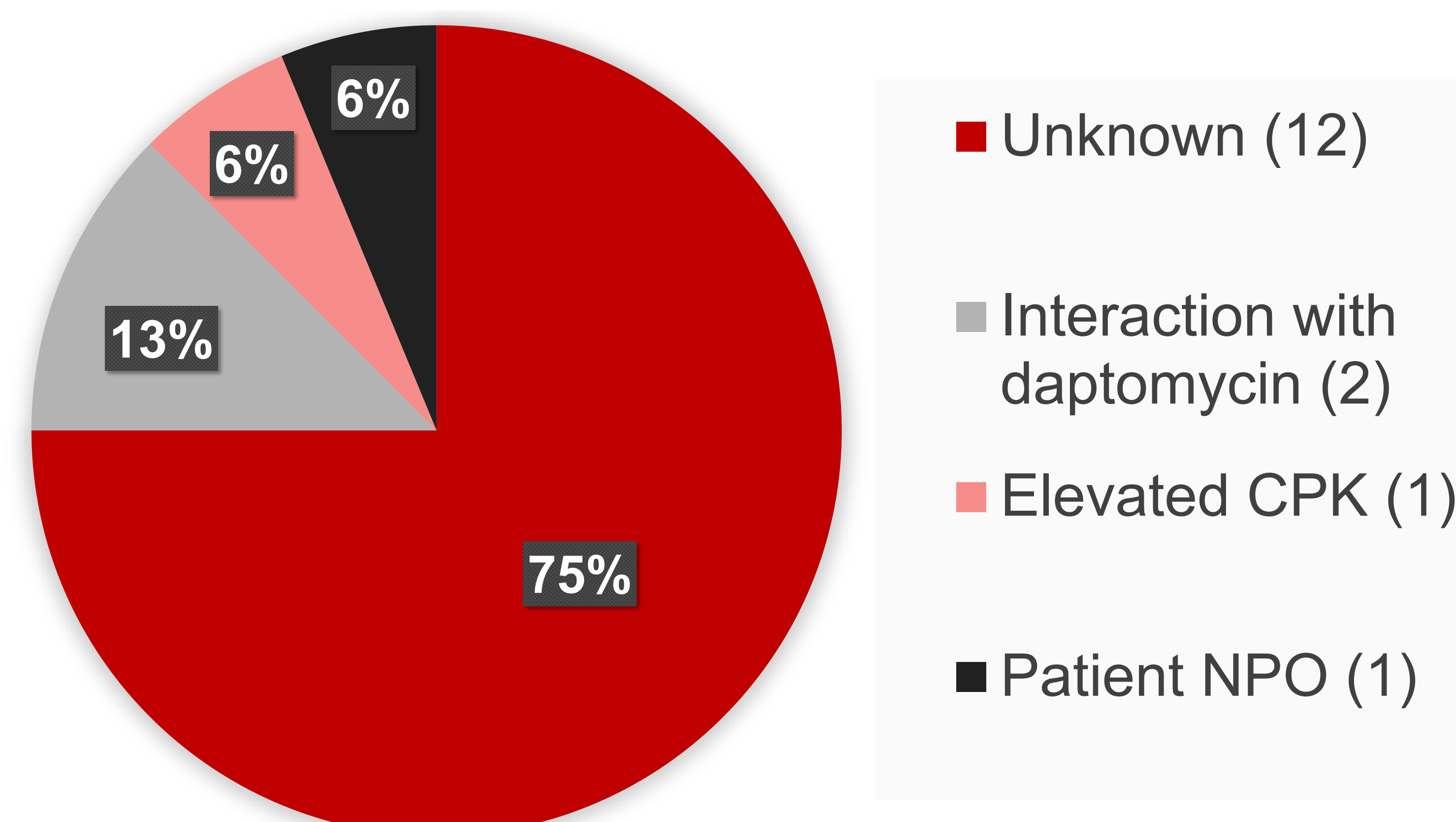
**Table 1 Overall Demographics**

	Mean (SD) or % (N)
Age	63.9 years ( $\pm$ 11.04)
White/Caucasian Race	82.93% (68)
Male Sex	56.10% (46)
Number of CPK Lab Values	1.59 ( $\pm$ 1.00)

**Table 2 Statin Status**

	% (N)
Continued	80.49% (66)
Discontinued	15.85% (13)
Continued -> discontinued	3.66% (3)

**Figure 3 Reason for Statin Discontinuation (N = 16)**



### RESULTS

**Table 4 Incidence of CPK Elevation**

		CPK Elevation (>200 IU/L)	
		Yes	No
Statin Status	Continued	1	65
	Discontinued	3	10

**Table 5 Statin Intensity Evaluation**

		High Intensity Statin*	
		Yes	No
Statin Status	Continued	29	37
	Discontinued	3	10

\*Defined as atorvastatin 40 mg, atorvastatin 80 mg, rosuvastatin 20 mg, or rosuvastatin 40 mg daily.

**Table 6 Clinical ASCVD Evaluation**

		Clinical ASCVD	
		Yes	No
Statin Status	Continued	23	43
	Discontinued	7	6

### LIMITATIONS

- Retrospective design
- Inappropriate CPK monitoring in 69.51% (57) participants
- Short duration of inpatient stay, limiting number of CPK lab values assessed

### CONCLUSIONS

- Statins are often administered concomitantly with daptomycin in the inpatient setting
- Few incidences of CPK elevations occur when statins are administered with daptomycin
- Co-administration of statins with daptomycin may be a safe option for some patients with appropriate CPK monitoring

#### References

1. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol
2. Bland CM, Bookstaver PB, Lu ZK, et al; Southeastern Research Group Endeavor (SERGE-45). Musculoskeletal safety outcomes of patients receiving daptomycin with HMG-CoA reductase inhibitors. *Antimicrob Agents Chemother.* 2014;58(10):5726-5731. doi:10.1128/AAC.02910-14
3. CUBUCIN (daptomycin) [package insert]. Whitehouse Station, NJ: Merck & Co., Inc; August 2020