EFFECT OF BMI ON CARDIOVERSION

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INTRODUCTION

- Several factors impact the outcome of cardioversion in Atrial Flutter and Fibrillation, with BMI being a significant factor.
- Weight less than 80 has been shown to result in higher success rates of cardioversion.
- We aim to assess the effect of BMI on cardioversion in our patient population at University of Kentucky.

Methods

- We reviewed 515 cardioversions done at University of Kentucky, and noted the BMI, indication of cardioversion, number of joules used for cardioversion and attempts to cardioversion.
- We performed a univariate analysis to assess the effect of BMI on cardioversion.

RESULTS

- Mean BMI in our cohort of patients was 32 ± 9 with range of 16 to 78.
- BMI had a statistically significant effect on the outcome of cardioversion. (table 1)
- Compared to non-obese patients, the obese patients (BMI>30) required significantly higher number of shocks (P= 0.017) and higher joules in the first shock (P= 0.026); however, joules used in subsequent shocks delivered were not affected by patients BMI.

Table 1: **Univariate logistic regression for the predictors of achieving sinus rhythm following cardioversion**

Variables	BMI (kg/m2)				P-value
	<30		≥30		
	Mean	SD	Mean	SD	
Number of Shocks Delivered	1.1	0.5	1.2	0.6	0.017*
Joules used in 1st shock	164.2	54.2	174.3	55.2	0.026*
Joules used in 2nd shock	173.6	41.5	189.8	28.8	0.054
Joules used in 3rd Shock	188.6	30.2	231.7	97.7	0.65
Joules used in 4th Shock	200.0	0.0	266.7	115.5	1.000

RESULTS

- We also fond increasing number of shocks were associated with less odds of achieving a sinus rhythm (OR= 0.18; 95%CI= 0.12-0.28; P< 0.001). Atrial flutter was associated with higher odds of achieving an immediate sinus rhythm (OR= 2.71; 95%CI= 1.37-5.37; P= 0.004) compared to atrial Fibrillation.

CONCLUSION

- In our analysis, we have an obese population undergoing cardioversion.
- We found patients with obesity required high number of shocks and higher joules for cardioversion, which is in line with previous literature.