OPTIMAL DURATION OF HOLTER RECORDINGS: IS THERE ADDITIONAL YIELD FROM 48 VERSUS 24 HOURS?

Amanda Trang, MD and Behzad B. Pavri, MD

Thomas Jefferson University Hospital, Philadelphia, PA

INTRODUCTION

- Holter monitors are often used for evaluation of palpitations, syncope, heart rate, and detection of arrhythmias
- The duration of a typical Holter recording is either 24 or 48 hours
- Little research has been targeted at determining the ideal duration of monitoring
- We examined the yield of 24 versus 48 hours of Holter monitoring

OBJECTIVE

- To determine if there is additional yield from performing 48 hour Holters over 24 hour Holters

METHODS

- 60 consecutive 48-hour Holter monitors (Philips LifeWatch™) from 2012-2013 were analyzed
- Data was extracted for 16 variables for the first 24 hours (Day 1) and second 24 hours (Day 2) of each recording
- Variables included heart rate, ectopy, arrhythmias, and QTc
- Statistical differences were calculated using two-sample t-tests for continuous variables

Variable	Day 1	Day 2	p value
Mean HR	76.93	77.56	0.47
Min HR	49.92	50.42	0.21
Max HR	127.23	129.55	0.12
Number of PACs	457.10	369.88	0.38
Number of SVT Runs	2.23	1.86	0.49
Longest SVT Run	5.41	6.73	0.48
AF duration (min)	22.50	23.40	0.01
AF beats	99696.60	103793.20	0.30
Number of PVCs	242.30	216.15	0.24
Number of Couplets	18.43	22.28	0.16
Number of Triplets	1.63	2.37	0.31
Number of VT Runs	5.75	6.50	0.32
Longest VT Run	2.50	5.50	0.32
Avg QTc	444.18	447.53	0.11
Min QTc	348.65	366.07	0.01
Max QTc	609.43	604.97	0.66

RESULTS (see table)

- Mean age=53 (range=18-88) years; 47% were male
- Indications for Holter:
  - Palpitations (n=42)
  - Presyncope (n=4)
  - Monitoring for atrial arrhythmia (n=3)
  - AV block (n=2)
  - AF rate control (n=3)
  - Ventricular arrhythmia detection (n=3)
  - Sick sinus syndrome (n=2)
  - Prolonged QT (n=1)
- There were no significant differences between Day 1 versus Day 2 for all variables, except minimum QTc (441 ms vs. 446 ms, p=0.04) and AF duration (22.5 min vs. 23.4 min, p=0.01)

CONCLUSIONS

- **In our cohort of unselected patients, we found no statistically or clinically significant differences in Holter data collected during the first 24 hours and the second 24 hours of a 48-hour recording**
- **Our results suggest that a 48 hour Holter recording does not increase yield over a 24 hour recording**
- **There may be decreased cost (48 hour Holters were billed as two 24 hour Holters) and less patient inconvenience**