ACCELEROMETER-MEASURED PHYSICAL ACTIVITY RECOVERY IN THE FIRST MONTH AFTER TRANSCATHETER AORTIC VALVE REPLACEMENT

ACC Moderated Poster Contributions
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Background: Accelerometers continuously record activity and estimate physical activity and energy expenditure. We explored changes in daily activity immediately after transcatheter aortic valve replacement (TAVR) in older adults.

Methods: We employed wrist-mounted accelerometry in 25 subjects (mean age 87±5, 44% male, STS score 10.6±3.4%) prior to and weekly to 26±9 days after transfemoral or transapical TAVR to measure changes in activity. Average activity counts (AC) per hour for the most active 10 hours of the day (M10) was used to estimate daytime activity and converted to METS using a validated algorithm. The first and the last post-procedure week were compared with baseline to calculate changes in activity.

Results: Median length of stay post TAVR was 5 days (interquartile range 4-7). TAVR was associated with a decrease in M10 by 41587±46504 AC (42±25% of baseline activity, p=0.0002) at week 1. This was followed by an increase in activity of 34433±42894 AC (p=0.0007) from the first to last post-procedure week. There was no difference between baseline and last post procedure week (101065±72653 AC vs 87742±66994 AC, p=0.3). An increase or return to within 15% of baseline activity was seen in 18/25 subjects.

Conclusions: Using continuous accelerometry to measure change in energy expenditure of activity after TAVR, the acute decrease and then full recovery of activity can be demonstrated. Further studies using accelerometry will evaluate dynamics and predictors of activity recovery after TAVR.