FELLOW INEXPERIENCE IS ASSOCIATED WITH LONGER PROCEDURE TIMES BUT NO INCREASE IN COMPLICATIONS

Poster Contributions
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Session Title: Arrhythmias: Devices I - Identification and Avoidance of Complications Associated with Implantable Devices
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Background: Pacemaker implantation is usually performed by board-certified specialists. In electrophysiology (EP) training programs, EP fellows with limited experience may be the primary operator for pacemaker implantation. We sought to determine if physician experience is associated with procedural outcomes.

Methods: We retrospectively studied 335 patients undergoing initial dual-chamber pacemaker implantation performed at UCSF from 2004-2011. We calculated physician experience using the physician start date and the procedure date. Linear regression was used in univariate and multivariate analyses.

Results: In univariate analysis, there was an association between years of fellow experience and procedure time (22% less procedure length/year of experience, 95% CI: 14% to 28%, P<0.001), but not attending physician experience (P=0.23). Second-year fellows performed implants in 20.4 minutes less time than first-year fellows (mean 108.0±46.8 versus 128.4±59.8 minutes, respectively; P=0.001). Fellow (P=0.15) and attending physician (P=0.43) experience were not associated with fluoroscopy time. Neither fellow (P=0.38) nor attending physician experience (P=0.64) were associated with complications. Furthermore, there was no increase in complications in the procedures performed in the first month of EP fellowship compared to the remaining time of fellowship (P=0.51). In multivariate analysis adjusting for patient age, history of hypertension, fellow and attending physician experience as covariates, fellow experience (21% less procedure time/year, 95% CI: 14% to 28%, P<0.001) remained associated with procedure length.

Conclusions: Each year of EP fellow experience is associated with a more than 20% decrease in dual chamber pacemaker implantation procedure time. Procedures performed by EP fellows within the first year or first month of training are not different with regard to complications compared to the procedures done in the remainder of EP fellowship.