An Automated TEE Protocol Improves Standardization and Adherence to Imaging Guidelines Across a Healthcare System

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Background

Achieving consistent, high quality care across providers proves difficult with healthcare consolidation. Transesophageal echocardiograms (TEE) performed at 2 accredited hospital-based echo labs in Yale New Haven Health System should be similar. We hypothesized that an automated TEE protocol enables standardization amongst cardiologists.

Methods

We compared image acquisitions from 5 studies of 10 physicians at 2 sites for pts with AF. Site A used a Phillips iE33 without an automated protocol and Site B used a Siemens SC2000 with an automated protocol. Intersocietal Accreditation Commission (IAC) guidelines for TEE were used.

	Site A Mean ± SD	Site B Mean ± SD	p Value
LAA Views	3.7 ± 1.7	5.9 ± 0.6	<0.05
Pulmonary Veins Visualized	1.5 ± 1.3	3.6 ± 1	<0.05
Study Time (min)	16.4 ± 7.2	19.6 ± 7.2	0.12
Total Required Views	31 ± 7	48.2 ± 2.7	<0.05
Time (sec)/View	31 ± 9.1	24.2 ± 8.3	0.43

Atrial Fibrillation (ME Views)
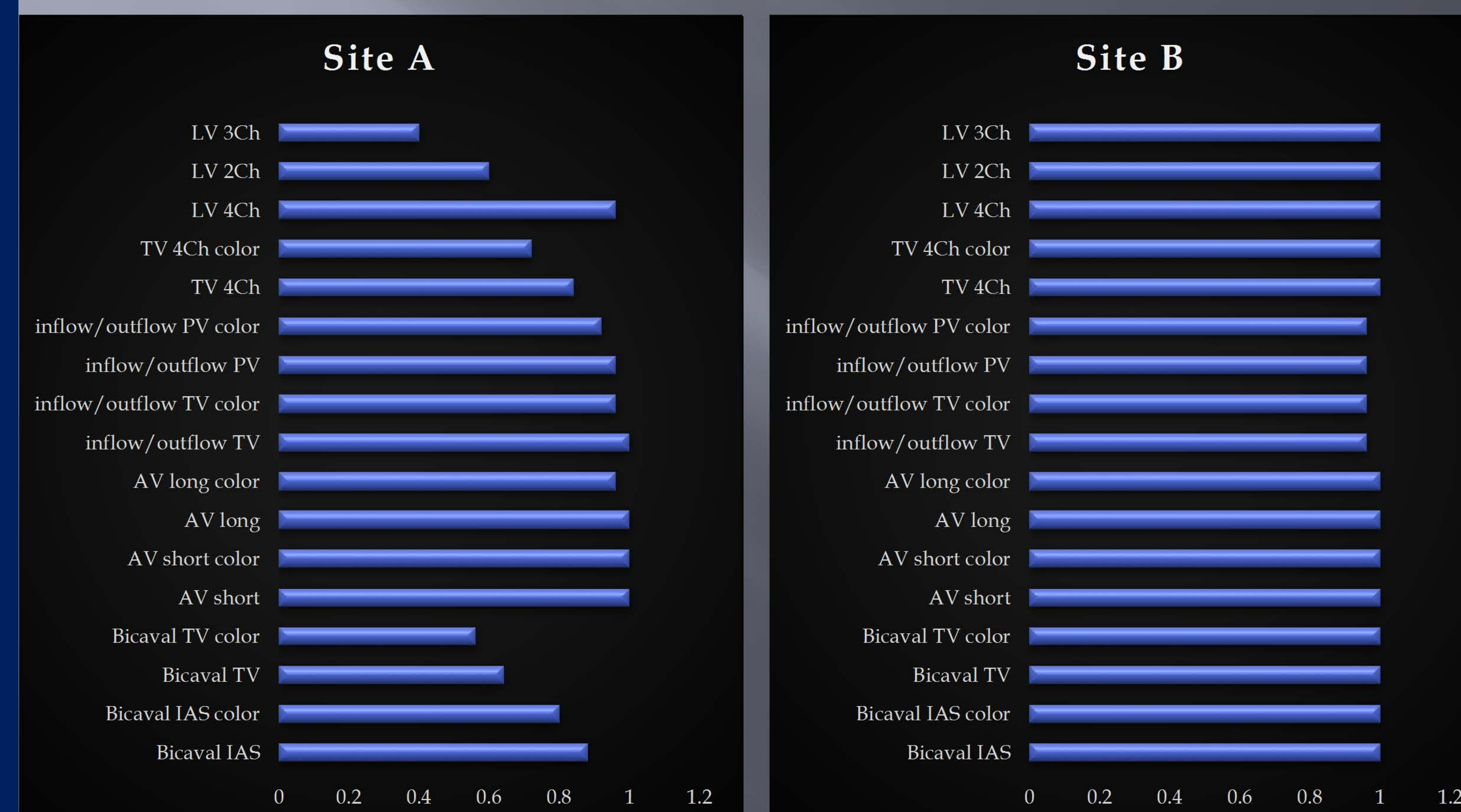
Each attempt at imaging a structure was recorded along with the time per study and per required structure. The number of left atrial appendage and pulmonary vein views were also assessed.

Results

Site B acquired significantly more views at more angles of the left atrial appendage, more views of the pulmonary veins, and more overall required views compared to Site A. No significant difference in the total study time or time per required view was found.

Conclusion

An automated TEE protocol improves the x to IAC guidelines for TEE imaging providing a complete study without lowering physician efficiency.