

Prostatic Artery Embolization: Does the Presence of a Trainee Affect Procedural Metrics?

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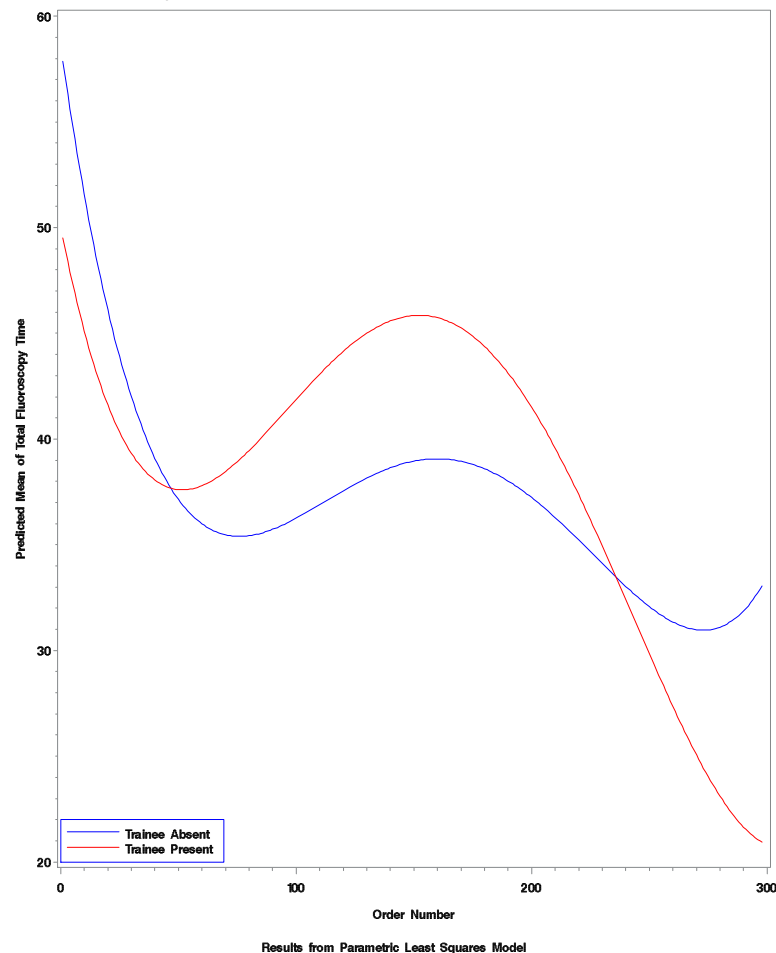
Purpose

Prostatic artery embolization (PAE) is a complex procedure requiring extensive training given the highly variable pelvic anatomy. Attending physicians have the challenge of teaching trainees by allowing them to participate in the procedure. However, in a challenging procedure such as PAE, trainee participation can substantially increase procedure time, fluoroscopy time and radiation dose to the patient. The aim of this study was to determine the differences in procedural metrics in PAEs when a trainee was participating.

Materials and Methods

Patients who underwent PAE over a 6-year period at a single institution were identified. Procedure time (PT), fluoroscopy time (FT), and air kerma (AK) were recorded. For each procedure, air kerma per procedure minute was calculated. Data was stratified into two groups: trainee absent and trainee present. Least squares polynomial models were employed to determine if the trajectories differ by whether a resident was present during the procedure. Learning models were created for both groups and regions of significant differences ($p < 0.05$) between groups were reported.

Figure 1. Plot of Predicted Mean of Total Fluoroscopy Time by Presence or Absence of a Trainee



Results

298 patients were identified. Average PT, FT, and AK were 120.4 min, 39.64 min, and 1903.52 mGy, respectively. No significant difference between groups was observed for PT, AK, or AK/PT. FT was significantly different between groups ($p < 0.05$). The predicted means for FTs were significantly greater when trainees were present for the 96th-185th procedure.

Conclusion

Fluoroscopy times for PAE were significantly higher when a trainee was present. However, procedure time and air kerma were not significantly different. Longer fluoroscopy times could be explained by the lack of technical expertise trainees have when identifying target vessels in the pelvic region. However, because angiography is a much greater contributor to total radiation dose, air kerma were not affected.

References

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