Use of Fluoroscopy in Outpatient Lower Extremity Angiography

Objective: Outpatient angiogram procedures have increased in volume over the past decade, with more invasive techniques being utilized outside the confines of a hospital. However, there is a lack of published data on the use of fluoroscopy in the outpatient setting. We examined the use of fluoroscopy in outpatient angiography procedures focusing on the lower extremity.

Materials and Methods: Over the course of 5 years, we have performed 422 lower extremity angiograms in the outpatient setting, including stent placements and atherectomies, with the use of fluoroscopy. The average age of the patient cohort was 71 (range 33-91, SD +/- 8.0), with 260 males and 162 females.

Results: Of 123 patients where all radiation was data obtained, the average case time was 56.53 minutes with an average total fluoroscopy time of 389.6 seconds (range 12.1–1468.0, SD +/- 220.24). The average cumulative radiation dose was 1.30532 mGy² (range 0.09166–4.45, SD +/- 0.845859). Average intravenous contrast dose administered was 42 mL (range 12—80, SD +/- 11.9).

The most common indication for intervention was claudication (94%, 115/123), followed by critical limb ischemia, including ulceration (4%, 5/123), and reintervention for a failing previous procedure (2%, 3/123). The most common vessel that received intervention was the superficial femoral artery (80%, 98/123), with 1 patient undergoing atherectomy, 52 receiving stent placement, and 45 undergoing concomitant atherectomy with subsequent stent placement. The popliteal artery was the second most common artery receiving intervention (65%, 80/123), with 4 atherectomies, 45 stent placements, and 31 atherectomies followed by stent placement.

Conclusion: Fluoroscopy can be used in the outpatient setting in cases of lower extremity angiography, with a relatively small level of fluoroscopy time, radiation exposure, and intravenous contrast use. Future research should explore the differences in case length, fluoroscopy time, cumulative dose, and intravenous contrast volume between outpatient and inpatient lower extremity angiography procedures.