



COMPARISON OF RADIATION DOSE IN FEMORAL AND RADIAL ARTERIAL ACCESS CORONARY PROCEDURES; THE EFFECT OF OPERATOR EXPERIENCE.

ACC Poster Contributions

Georgia World Congress Center, Hall B5

Tuesday, March 16, 2010, 9:30 a.m.-10:30 a.m.

Session Title: Quality of Care - PCI

Abstract Category: Quality of Care

Presentation Number: 1248-160

Authors: *Johanne Neill, Hannah Douglas, Niall Herity, Belfast City Hospital, Belfast, United Kingdom*

Introduction: Radial arterial access (RA) coronary procedures are associated with fewer access site complications and shorter hospital stay than with femoral access (FA). There is controversy with respect to greater radiation exposure to both patient and operator using RA. We aimed to compare radiation dose during coronary procedures for both access routes and to assess the effect of RA operator experience on radiation dose.

Methods: Body Mass Index (BMI), Fluoroscopy time (FT), Dose Area Product (DAP) and contrast used were recorded for all RA and FA coronary angiography and interventions during 3 time periods in a tertiary cardiology centre; Jan to April 2007 (FA), Jan to July 2008 (FA and RA - early RA experience) and Jan to July 2009 (FA and RA).

Results: For FA, 848 cases (412 diagnostic, 436 interventions) and 965 RA cases (459 diagnostic, 506 interventions) were assessed. For diagnostic cases, mean FA BMI was 29 ± 5 Kg/m² and RA 30 ± 6 Kg/m² ($p=0.03$), median FA FT was 2.34 IQR 1.49 - 4.18 mins and RA 4.43 IQR 2.55 - 8.18 mins ($p<0.001$), median FA DAP was 1657 IQR 1064 - 2376 μ Gycm² and RA 1837 IQR 1172 - 2783 μ Gycm² ($p<0.001$), median FA contrast used was 110 IQR 90 - 130mls and RA 100 IQR 90 - 130mls ($p=NS$).

For interventions, mean FA BMI was 29 ± 5 Kg/m² and RA 29 ± 5 Kg/m² ($p=NS$), median FA FT was 9.36 IQR 6.13 - 14.27 mins and RA 12.02 IQR 7.57 - 17.54 mins ($p<0.001$), median FA DAP was 3392 IQR 2139 - 5193 μ Gycm² and RA 3682 IQR 2388 - 5314 μ Gycm² ($p=NS$), median FA contrast used was 193 IQR 150 - 240mls and RA 190 IQR 150 - 240mls ($p=NS$).

Comparing RA in Jan - July 2008 ($n=280$) to Jan - July 2009 ($n=685$) there were no significant differences in BMI (29 ± 5 Kg/m² vs 30 ± 6 Kg/m²), FT (8.05 IQR 4.37 - 12.61 mins vs 8.24 IQR 4.15 - 13.37 mins), DAP (2654 IQR 1596 - 4378 μ Gycm² vs 2650 IQR 1581 - 4381 μ Gycm²) or contrast used (130 IQR 100 - 190mls vs 140 IQR 100 - 190mls).

Conclusions: For diagnostic studies RA is associated with greater FT and DAP than FA, although BMI was greater in the RA group. For interventions RA FT is longer than in FA but DAP was similar. The FT and DAP in RA did not improve with considerable operator experience.