

Revascularization for Atherosclerotic Renovascular Disease (ARVD) in the US Medicare Population.

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To date, few national level studies have described current revascularization practices, and association with clinical events, and robust, clinical trial-based guidance is lacking.

Medicare claims were used to define clinical events and procedural use in a 5% random sample of the US Medicare population without ARVD in the two years preceding December 31, 1999 (N = 1,084,963), who were followed until December 31, 2001.

The incidence of new ARVD was 3.7 per 1,000 patient years. 16.2 % underwent renal revascularization (percutaneously in 96%) at the time of ARVD diagnosis, or afterwards. Event rates (per 1000 patient years) for the ARVD patients (N= 7432) compared to the non-ARVD population were 306.2 vs. 73.5 for atherosclerotic heart disease (AHD), 738.7 vs. 56.5 for peripheral vascular disease (PVD), 28.8 vs. 1.3 for renal replacement therapy (RRT) and 166.3 vs. 63.6 for death. ARVD patients with hypertension (adjusted hazard ratio (AHR) 1.32) and AHD (AHR 1.23), were more likely, and those with hepatic disease (AHR 0.37), age 75-84 (AHR 0.42), black race (AHR 0.76) and anemia (AHR 0.85) less likely to undergo revascularization. As a conditional event occurring after ARVD, revascularization was associated with the following AHRs: AHD, 1.42 (95% CI 1.12-1.81, P = 0.004); congestive heart failure, 0.89 (95% CI 0.71-1.10, P = 0.3); PVD, 1.38 (95% CI 1.13-1.69, P =0.002); RRT, 1.02 (95% CI 0.69-1.50, P = 0.9) and death, 0.84 (95% CI 0.70-1.01, P = 0.06).

Revascularization is used selectively in a minority US ARVD patients. In terms of subsequent outcomes, it is associated with higher rates of AHD and peripheral vascular disease. Only a minority of ARVD patients progressed to RRT and revascularization was not associated with lower outcome rates.