

Temporal trends in ischemic stroke and anticoagulation therapy among Medicare beneficiaries with non-valvular atrial fibrillation with and without diabetes mellitus, 1992-2010

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Introduction

- There has been a decline in ischemic stroke rates in the Medicare population, coincident with increasing rates of anticoagulation.^{1,2}
- Patients with diabetes mellitus (DM) and atrial fibrillation (AF) are at increased risk of ischemic stroke; but evidence regarding reduction in ischemic stroke with warfarin use in the literature is limited.
- We evaluated temporal trends in ischemic stroke and warfarin use among the US Medicare population with and without DM.

Methods

- One-year cohorts of patients with Medicare as primary payer, 1992-2010, were created using the Medicare 5% sample.

Methods (cont'd)

- ICD-9-CM codes were used to identify AF, ischemic and hemorrhagic stroke and comorbidities
- ≥ 3 consecutive prothrombin-time claims were used to identify warfarin use.^{1,2}
- Patients with valvular heart disease and ESRD were excluded.

Results

Demographic characteristics between 1992 (n=40255) and 2010 (n=80314) respectively were (proportions):

- age 65-74 years (37%, 32%)
- age ≥ 85 years (20%, 25%)
- white (94%, 93%)
- hypertension (46%, 80%)
- DM (20%, 32%)
- chronic kidney disease (5%, 18%)

Among Medicare AF patients with DM:

- Ischemic stroke rates decreased by 71% (1992, 2010) from 65/1000 to 19/1000 patient-years
- Warfarin utilization increased from 28% to 62% respectively (Figure 1A).

Among Medicare AF patients without DM:

- Ischemic stroke rates decreased by 68% from 44 to 14/1000 patient-years
- Warfarin use increased 26% to 59% respectively (Figure 1B).

About 38% Medicare AF pts with DM did not receive anticoagulation in 2010.

Figure 1A: Trends in ischemic and hemorrhagic stroke among Medicare patients with diabetes mellitus

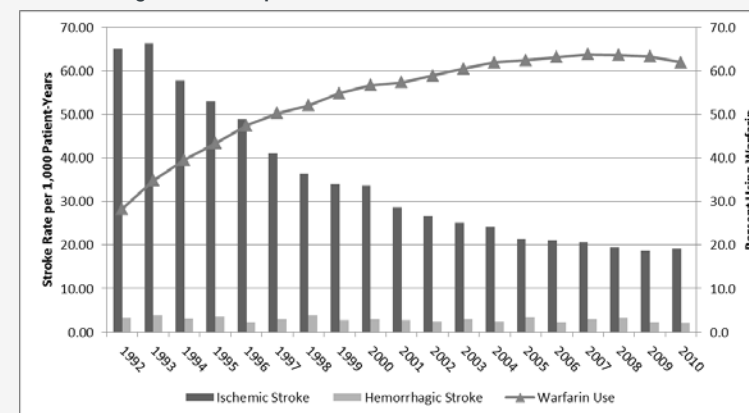
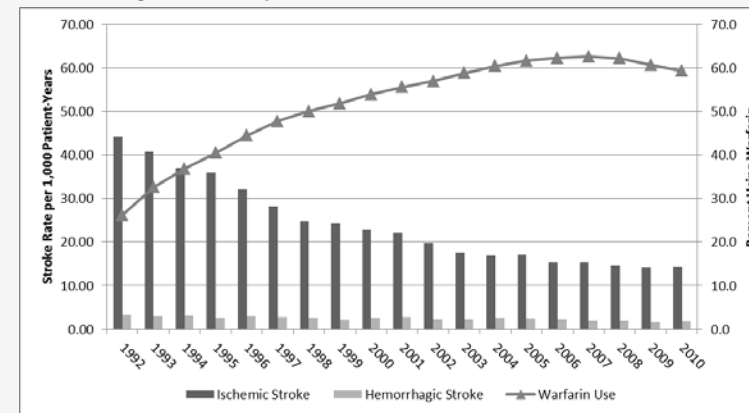


Figure 1B: Trends in ischemic and hemorrhagic stroke among Medicare patients without diabetes mellitus



Conclusions

- Medicare patients with and without DM had a similar reduction in ischemic stroke rates; and similar increase in warfarin utilization over the study period.
- Ischemic strokes rates among patients with DM were consistently higher than non-DM patients; thus validating the inclusion of DM in risk calculators.
- A significant proportion of Medicare pts with DM did not receive anticoagulation with warfarin for AF in 2010; this population deserves future attention.

References

1. Shroff GR, Solid CA, Herzog CA. JAMA Internal Medicine 2013.
2. Shroff GR, Solid CA, Herzog CA. JAMA 2014.