Key Summary of Conference Abstract

Association of Genetic Risk Score with Burden of Atrial Fibrillation: An ENGAGE AF-TIMI 48 Analysis

Background

- Atrial fibrillation (AF) is a common heart rhythm disorder. A previous study showed that risk of incident AF and ischemic stroke can be predicted by an AF-genetic risk score (AF-GRS).[1]
- This AF-GRS may also help identify patients at higher risk of elevated AF burden, which is measured by frequency, duration, and severity of AF episodes. This information could help physicians manage patients.
- **Objective:** Evaluate the association between the AF-GRS and AF burden among participants of the ENGAGE AF-TIMI 48 trial; all participants had AF at baseline and were randomized to edoxaban or warfarin for the prevention of stroke and systemic embolism.[2]

Methods

- During randomization of ENGAGE AF-TIMI 48 trial participants, AF burden was classified based on frequency, duration, and severity of AF episodes.
- Using a multiplexed method, genotypes for the 12 SNPs that comprise the AF-GRS were determined for 13,415 trial participants.
- An AF-GRS was calculated for each participant based on SNP genotypes and their risk estimates.
- The association between AF-GRS and AF burden was evaluated using a proportional odds model that adjusted for baseline characteristics.

Results

- Participants had a 13% greater risk of more severe AF burden for one standard deviation increase in AF-GRS.
- Participants in higher quintiles of AF-GRS had higher AF burden.
  - Participants in the highest quintile of AF-GRS had a 42% higher risk of greater AF burden than those in the lowest quintile.

Conclusions

- AF-GRS is associated with greater burden of AF.

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References

1. Tada H, Shiffman D, Gustav Smith J, et al. *Stroke*. 2014;45:2856−2862.
2. Magnani G, Giugliano RP, Ruff CT, et al. *Eur J Heart Fail*. 2016;18:1153−1161.

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