Relationship between Glaucoma and Admixture in Postmenopausal African American Women

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INTRODUCTION

Glaucoma is a leading cause of vision loss in elderly American adults. In the United States, a recent report estimated that the prevalence of glaucoma for adults aged ≥50 years was 6.4% and the prevalence was highest for African Americans (9.9%), followed by Hispanics (7%) and European Americans (5.7%).

Risk factors for primary open angle glaucoma include race, hypertension, age, family history of glaucoma, intraocular pressure, and structure of the optic disk. The prevalence of glaucoma is reportedly approximately four times higher in African Americans than in European Americans aged >40 years

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Materials and Methods

Study Design and Participants

Study participants included women enrolled in the WHI Observational (OS) and Clinical Trial (CT) arms. In brief, the WHI includes 160,000 postmenopausal women aged 50–79 years drawn from 40 different sites across the United States. Within this cohort, 11,616 women are self-identified as African Americans for whom admixture information regarding European (EUR) and African (AFR) ancestry was determined based on analyses of ancestry informative markers (AIMs) as reported previously. All studies were conducted with appropriate informed consent and in agreement with established Human Institutional Review Board procedures at the University of California Davis and along with the principles of the Helsinki Declaration.

Phenotypes and Covariates

Glaucoma status was recorded for >90% of study participants based upon the response to the question: “Has a doctor told you that you have any of the following conditions or have you had any of the following procedures: