1. Title: Potassium and Carotid Wall Thickness

2. Writing Group:
   
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3. Timeline:

   Data available now. To be presented at AHA and submitted for publication following the meeting.

4. Rationale:

   Tobian and colleagues demonstrated that the wall of renal arterioles were hypertrophied in hypertensive rats fed a low K+ diet, but were not hypertrophied in hypertensive rats fed a high K+ diet. The effect was independent of blood pressure. McCabe and Young recently presented data from in vitro experiments that small increases in K+ concentration strongly inhibited the rate of growth of vascular smooth muscle cells in culture. The inhibitory effect of K concentration on the growth of vascular wall smooth muscle may be a factor contributing to the reported protective effect of a diet with a high potassium content.

5. Main Hypothesis:

   The hypothesis to be tested is that serum potassium level at baseline is inversely related to carotid wall thickness. A secondary hypothesis to be examined is that dietary potassium at baseline is related to serum potassium and inversely related to carotid wall thickness.

   A second paper is anticipated to examine the serum potassium/carotid wall thickness changes from visit 1 to visit 2 if an association is demonstrated in the baseline data.

6. Data (variables, time window, source, inclusions/exclusions):

   The source of data for the original data is the visit 1 data tape. The variables of interest include: age, race, gender, body mass index, carotid wall thickness, popliteal wall thickness, blood pressure, clinical chemistry, HBP meds, and derived variables.