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Title

Update on Prevention of First and Recurrent Stroke: New Aspects and Future Considerations

Presenter

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Stroke is the most important preventable neurological disease of adults as it is characterized by a high prevalence, modifiable risk factors, proven therapies to reduce risk, high disability burden, and substantial economic costs (Gorelick 2007 [in press], 2005, 2002, 2002a, 2002b, 2001a, 2001b, 1999, 1997, 1995, and 1994). There is a robust armamentarium of interventions to prevent first and recurrent stroke (Gorelick 2005). Although we have many interventions at our disposal, control of basic risk factors for stroke remains less than optimal. For example, blood pressure control in the US is estimated to be only 34%, and similar suboptimal trends have been observed across the globe. Furthermore, stroke and cardiovascular disease risk begins as low as a blood pressure of 115/75 mm Hg, yet most countries maintain national blood pressure goals at higher levels (e.g., US JNC 7 goals: <140/90 mm Hg in uncomplicated hypertensives and <130/80 mm Hg in diabetics). This has led to a redefinition of hypertension (Giles et al, 2005) and the inclusion of a new category of blood pressure classification in the US JNC 7 guideline, *prehypertension* (between 120/80 and 139/89 mm Hg). As stroke prevention evolves, new risk factors (e.g., c-reactive protein [CRP], lipoprotein-associated phospholipase A2 [Lp-PLA2], metabolic syndrome) and cardiovascular preventatives (e.g., renin inhibitors, endocannabinoid system modifiers) have emerged. In addition, other key advances such as the establishment of an international movement to certify primary stroke centers through the efforts of the Joint Commission on Accreditation of Health Care Organizations (JCAHO) and state or national legislative efforts have been designed to heighten *organization and quality* of stroke care worldwide.

In this lecture we will review the following key topics in relation to stroke prevention: 1. New concepts in the prevention of a first stroke with a focus on hypertension and how the concept of hypertension has evolved into a more pervasive one taking into account associated metabolic risks and the prehypertensive state; 2. New risk factors or markers for stroke including Lp-PLA2 and CRP; 3. Highlights of new US guidelines for first and recurrent stroke prevention (Goldstein et al, 2006; and Sacco et al, 2006); 4. A perspective on advances in recurrent stroke prevention based on a comparison of prior and new data from antiplatelet studies (AAASPS, CAPRIE, MATCH, CHARISMA, ESPIRIT), review of a new statin study (SPARCL) for recurrent stroke prevention, and antihypertensive studies (PROGRESS, MOSES) for recurrent stroke prevention; and 5. A look at what might be the face of future stroke prevention.

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