



83rd Annual Congress of the European Atherosclerosis Society (EAS) March 22-25, Glasgow, Scotland, UK

The challenge of heart disease prevention: is lifetime risk the answer?

- **Targeting intervention earlier to reduce the duration of exposure to cardiovascular risk factors may provide greater benefit in terms of life years gained**

Despite improvements over the last 20 years, heart disease remains the major cause of death and long-term morbidity. Increasing levels of certain risk factors such as obesity and diabetes may even reverse recent gains in death rates from heart disease.

Validated risk prediction scores, such as QRISK2 used in the UK, can help to identify patients for intervention when they are at high risk defined by a 10 year cardiovascular disease threshold of 20% or more, although some countries have recently cut thresholds to 10% or under. Given that age is the major factor influencing risk for heart disease, older people are judged to be at high risk by virtue of their age. Yet taking into account life expectancy, older individuals may not gain much from some preventive measures such as prescription of a statin. In contrast, young people who have a low 10-year risk of a heart attack or stroke based on their age, but are increased risk compared with other young people, may be missed. Targeting these individuals to reduce the duration of their exposure to modifiable cardiovascular risk factors may help to improve heart disease prevention.

Professor Sattar Naveed, Professor of Metabolic Medicine (Institute of Cardiovascular and Medical Sciences), University of Glasgow, said: *'Given that atherosclerosis is a chronic disease process, it is therefore logical that what matters most in heart disease prevention is the duration of exposure to modifiable cardiovascular risk factors. For example if you are obese in your 20s or 30s then you are at higher risk than if you develop obesity later on in life, as obesity drives your risk for heart attack via effects mediated by high blood pressure, high cholesterol and diabetes which adversely affect the blood vessel wall. Therefore it makes sense to consider intervening earlier in the disease process to prevent heart disease.'* Professor Sattar is chairing the update in cardiovascular disease prevention guidelines of the Scottish Intercollegiate Guidelines Network (SIGN), the body that develops evidence-based clinical practice guidelines for the NHS in Scotland. New SIGN guidelines on the prevention and treatment of heart complications are expected in the summer of 2016.

Estimates of lifetime risk may help in clinician-patient risk communication about how the individual can change their lifestyle to reduce their risk of heart disease, as well as sustain such changes in the long-term.

'The Holy Grail for clinicians and healthcare workers is to focus on lifestyle, specifically diet and physical activity, much earlier. Lifetime risk charts can be useful in illustrating the lifetime consequences of the individual's current lifestyle/risk factors, and how changes in lifestyle, including smoking cessation, can impact their risk for heart disease. The more we can explain the importance of duration of exposure to cardiovascular risk factors, the better the uptake in change is likely to be, with overall gain in life expectancy' – Professor Sattar.

Will lifetime risk replace current 10-year risk scores?

While there is good evidence for lifestyle intervention at all ages, it is not clear whether individual treatment decisions should be based on lifetime risk instead of 10 year risk. With revision of guidelines for preventing heart disease now in progress, there may shortly be answers to whether using a lifetime risk approach to target intervention earlier is preferable.

'The lifetime risk approach may help us in targeting people who have more to gain from preventive approaches in terms of life years gained. Perhaps we need to think about lifetime risk in addition to the patient's absolute threshold for heart attack and stroke.'
- Professor Sattar.

Related sessions at EAS Congress Glasgow:

- Symposium: Joint EAS-ESC Symposium: Guidelines for Dyslipidaemias, Present and Future. [Monday March 23, 15:00 - 16:30]
- Workshop: EAS-ICCR Joint Session Workshop: Changing lifestyle patterns: Challenge for Cardiovascular Prevention [Tuesday March 24, 11:00 - 12:30]
- Plenary: Future challenges and opportunities in the prevention & treatment of CVD [Wednesday March 25, 08:30-10:30]
- Advanced Clinical Seminar: New metrics & modelling for CVD risk prediction [Wednesday March 25, 11:45 - 12:30]

Contact:

EAS Press Officer

Dr. Robert Cramb

+44 121 371 5962/+44 7973186206

Email: Rob.Cramb@uhb.nhs.uk

EAS Administration Executive

Dr. Carmel Hayes

+46 31 724 27 95 / +46768 61 00 51

Email: office@eas-society.org

For Editors: key links

Current guidelines for prevention of cardiovascular disease

Catapano AL, Reiner Z, De Backer G, Graham I, Taskinen MR, Wiklund O, Agewall S, Alegria E, Chapman M, Durrington P, Erdine S, Halcox J, Hobbs R, Kjekshus J, Filardi PP, Riccardi G, Storey RF, Wood D; European Society of Cardiology (ESC); European Atherosclerosis Society (EAS). ESC/EAS Guidelines for the management of dyslipidaemias The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS). *Atherosclerosis* 2011;217:3-46. PUBMED link: <http://www.ncbi.nlm.nih.gov/pubmed/21882396>

Perk J, De Backer G, Gohlke H, Graham I, Reiner Z, Verschuren WM, Albus C, Benlian P, Boysen G, Cifkova R, Deaton C, Ebrahim S, Fisher M, Germano G, Hobbs R, Hoes A, Karadeniz S, Mezzani A, Prescott E, Ryden L, Scherer M, Syv anne M, Scholte Op Reimer WJ, Vrints C, Wood D, Zamorano JL, Zannad F; Fifth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice; European Association for Cardiovascular Prevention and Rehabilitation.

European Guidelines on cardiovascular disease prevention in clinical practice (version 2012): The Fifth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of nine societies and by invited experts). *Atherosclerosis* 2012;223:1-68 PUBMED link: <http://www.ncbi.nlm.nih.gov/pubmed/22698795>

SIGN. Heart Disease Guidelines (2007). Link: <http://www.sign.ac.uk/guidelines/fulltext/93-97/index.html>

END