

Long-term exposure to fine particles of traffic pollution associated with increased risk of heart disease

The association between road traffic and heart disease has been suggested in several studies. Now, a new study presented at the EuroPrevent 2013 congress in Rome shows that long-term exposure to fine particle matter (PM) air pollution in part derived from traffic pollution is also associated with atherosclerosis independent of traffic noise (Kälsch et al, 2013).

Details of the study were described by Dr Hagen Kälsch from West-German Heart Center in Essen, Germany, who explained that the study was designed to establish where responsibility for the increased heart risks associated with traffic actually lay – with noise or particle pollution, or both.

The study was based on data from the German Heinz Nixdorf Recall Study, a population-based cohort of 4814 participants with a mean age of 60 years. Their proximity to roads with high traffic volume was calculated with official street maps, their long-term exposure to particle pollutants assessed with a chemistry transport model, and road traffic noise recorded by validated tests.

The participants' level of atherosclerosis was evaluated by measurement of vascular vessel calcification in the thoracic aorta, a common marker of subclinical atherosclerosis (known as TAC), by computed tomography imaging.

Results showed that in the 4238 subjects included in the study small particulate matter (designated as PM_{2.5}) and proximity to major roads were both associated with an increasing level of aortic calcification – for every increase in particle volume up to 2.4 µm (PM_{2.5}) the degree of calcification increased by 20.7% and for every 100 metre proximity to heavy traffic by 10%.

The study also found a borderline increase in TAC for night time noise (of 3.2% per 5 decibels). The associations of PM_{2.5} and road traffic noise were not modified by each other.

'These two major types of traffic emissions help explain the observed associations between living close to high traffic and subclinical atherosclerosis,' said Dr Kälsch. 'The considerable size of the associations underscores the importance of long-term exposure to air pollution and road traffic noise as risk factors for atherosclerosis.'

Kaelsch H, Hennig F, Moebus S, et al (2013) Is urban particulate air pollution or road traffic noise responsible for the association of traffic proximity with subclinical atherosclerosis? Results from the Heinz Nixdorf Recall Study. Poster P307. EuroPrevent, Rome, Italy: 18–20 April

First international consensus on management of endometriosis

A new international consensus on the management of endometriosis has been published (Johnson et al, 2013).

The consensus is the result of the first-ever attempt to bring a global collaborative consensus to the management of endometriosis, based on the best scientific evidence available.

It sets out 69 agreements regarding surgical and hormonal treatments, the role of complementary therapies and treatment related to infertility. It also calls for more research and, for the first time, focuses on the views of women with endometriosis.

Commissioned by the World Endometriosis Society, over 50 representatives from 34 medical and non-medical

organizations involved with endometriosis treatment and support took part.

Helen North, CEO of Endometriosis UK, said: 'This is a major milestone in the long-term goal to find effective treatments for endometriosis...

'We wholeheartedly support the Society's aim for the Consensus statement to focus world attention on progressing endometriosis research and treatment, and the emphasis it gives to clinicians listening to the individual needs and views of the women sufferers.'

Johnson NP, Hummelshoj L for the World Endometriosis Society Montpellier Consortium (2013) Consensus on current management of endometriosis. *Hum Reprod* March 25 (Epub ahead of print)

Reducing the pain of movement in intensive care

Monitoring pain and providing analgesics to patients in intensive care units during non-surgical procedures, such as turning and washing, can not only reduce the amount of pain but also reduce the number of serious adverse events including cardiac arrest, finds new research (de Jong et al, 2013).

Although pain at rest is routinely noted, pain during procedures is less regularly reported and its effect on patients is unknown. To assess this missing information and to implement techniques to help better control pain where necessary, educational posters and training were used.

The study showed that being moved for nursing care is one of the most painful procedures experienced by the patient during a stay in the intensive care unit.

The training part of the study increased the amount of analgesics used and reduced both severe pain while being moved as well as serious adverse effects.

Dr Gérald Chanques, of the University of Montpellier Saint Eloi Hospital, commented: 'Our nursing and medical staff reported an increased awareness throughout, and after the project. ...we found that increased levels of pain medication did not appear to lead to increased side effects, indicating that staff were being very careful in assessing the balance between benefit and risk for individual patients.'

de Jong A, Molinari N, de Lattre S et al (2013) Decreasing severe pain and serious adverse events while moving intensive care unit patients: a prospective interventional study (the NURSE-DO project). *Crit Care* 17(2): R74 (Epub ahead of print)