The Connection Between Air Pollution and AFib

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Living in Clean Air for Your Heart

Atrial fibrillation (AFib) is a relatively common heart condition that occurs when the atria contract in an irregular fashion, making the heart beat too quickly, too slowly or in an uneven rhythm. An episode of AFib is usually triggered by fatigue, stress or anxiety, hormonal changes around menses, physical exertion, some medications (especially cold and allergy drugs), and excessive alcohol or caffeine intake. New studies also found an interesting correlation between an AFib episode and air pollution as well. Let's take a look at AFib and air pollution.

Research

A 2014 study featured in the British Medical Journal shows that certain air pollutants can increase the risk of AFib and other heart conditions, and therefore raising the chance of strokes, heart attacks and blood clots in the lungs (pulmonary embolism). This study is based on the data collected by UK researchers over 7 years from 2003 to 2009. The findings suggest that common air pollutions such as carbon monoxide, nitrogen dioxide, particle matter, sulfur dioxide and ozone (all in average levels) were linked with hundreds of thousands of heart attacks and over two million emergency admissions for heart problems.

How these air pollutants trigger an acute episode is not known, but particle matter called PM2.5 was specifically found to trigger AFib, while nitrogen oxide was associated with non-ST elevation heart attacks.

A previous study published in 2008 in “Circulation” from the Journal of the American Heart Association recorded similar findings, based on assessing almost 50 male patients who had just been admitted to the hospital for cardiovascular complaints. This study showed that increased levels of air pollution will negatively influence the electrical impulses generated by the heart. The possible underlying mechanism involved inflammation of the heart muscles, decreased oxygen flow, the formation of free radicals and rhythm disturbances, this study suggests.

The newer study (2014), however, suggests that not only high but also average levels of air pollutants can cause an AFib episode.

How to Prevent Exposure to Air Pollutants

General recommendations to prevent air pollutants to form in the environment include energy conservation by using ENERGY STAR products for your home or office; using public transportation or walking rather than using the car; getting regular check-ups done for your car and boats; and using environmentally friendly (also known as green) products.

Check the news and if the ozone levels are particularly high during the day, then avoid spending time outdoors. Fill your car’s tank in the evening or at night (when it is cooler) and set your air conditioner at home or the office above 78 degrees. When high particle levels are expected, use additional precautions: avoid burning leaves or

other materials and limit the use of fireplaces, wood stoves and gas-powered equipment (such as gardening tools). Avoid smoking (including second-hand smoke). It’s worth investing in high-quality air conditioners that filter and remove air pollutants from your home.