Traffic accidents increased by 50 percent in patients with implantable cardioverter defibrillator

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The risk of traffic accidents is increased by 50% in patients with an implantable cardioverter defibrillator (ICD) compared to age and gender matched controls, according to a Danish nationwide registry study presented at ESC Congress 2016 today.

"Driving after ICD implantation is an area of great debate and concern for both doctors and patients," said lead author Dr Jenny Bjerre, a physician at Herlev and Gentofte University Hospital, Copenhagen, Denmark. "Our study provides contemporary data suggesting that the risk of motor vehicle accidents is in fact increased following ICD implantation when compared to controls."

ICDs are widely used to prevent sudden cardiac death in patients with an increased risk of life-threatening arrhythmias (primary prevention) and in patients who have survived a life-threatening arrhythmia, including cardiac arrest (secondary prevention). The number of ICD implantations has increased dramatically over the past decades, now reaching almost 100 000 yearly implants in ESC member countries.

Due to the risk of arrhythmias and potential loss of consciousness while driving, patients with an ICD are temporarily restricted from driving following ICD implantation and/or ICD shock. However, contemporary data to support these recommendations are lacking and the restrictions have a negative influence on patients' quality of life.

The study by Dr Bjerre and colleagues was conducted at The Cardiovascular Research Centre at Herlev and Gentofte University Hospital in Denmark. Using nationwide registers, the researchers identified all Danish residents who received a first ICD for primary or secondary prevention between 2008 and mid-2012. Motor vehicle accidents were recorded from nationwide registers on accidents and deaths.

The study included 4874 ICD patients and a control group of 9748 subjects matched by age and gender. Participants were 63 years old on average.

During an average follow-up period of 2.5 years, 2.3% of ICD patients were in contact with a hospital following a motor vehicle accident, compared to only 1.7% of the control population. Over time, this translated into a 51% increased risk of motor vehicle accidents in ICD patients compared to controls. There was no detectable difference in accident risk between primary and secondary prevention ICD patients.

Although higher than in the control population, the overall rate of motor vehicle accidents in ICD patients was low (1.0 to 1.4% within the first year after implantation), and the researchers observed no deaths due to motor vehicle accidents in patients with an ICD.

Dr Bjerre said: "To date, driving recommendations for ICD patients are based on data from small studies in a few highly selected patients. The Danish nationwide registers provided a unique opportunity to investigate the subject in a 'real world' ICD population."

"Due to the retrospective nature of the study we are unable to conclude that ICDs cause traffic accidents," continued Dr Bjerre. "However, because the control population was generally healthier and took fewer medically prescribed drugs, we speculate that the observed increased risk of motor vehicle accidents in the ICD population is likely a consequence of the underlying

cardiovascular disease, rather than the ICD device itself."

More information: "Risk of motor vehicle accidents in patients with an implantable cardioverter defibrillator - A Danish nationwide study" ESC Congress 2016.

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