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Implantable cardiac loop recorders for the assessment of syncope: Is it possible to increase the diagnostic yield while reducing the number of adverse events?

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Aim: to compare the diagnostic yield of implantable loop recorders (ILR) of two subsequent generations for the assessment of syncope.

Methods: data on patients implanted for unexplained syncope in four public Italian hospitals were acquired from the Medtronic Clinical Service data base. After implant patients had routine follow-up every 90 days and urgent controls in case of syncope recurrence. The following findings were considered as diagnostic: ECG documentation of a syncope recurrence; documentation of any of the arrhythmias listed by the current guidelines as diagnostic findings even if asymptomatic.

Results: between November 2002 and March 2010, 40 patients were implanted with a Medtronic Reveal® Plus and 67 with a Medtronic Reveal® DX/XT and underwent at least one follow-up visit; the diagnoses were 7 (17.5%) and 24 (35.8%) (p=0.043), with a median time of 228 and 65 days respectively. Three (42.9%) and 21 (87.5%) (p=0.029) diagnoses were based on automatically detected events while adverse events occurred in 6 and in 1 (p=0.01) patients respectively.

Conclusion: Our results show a higher diagnostic yield, mainly related to the improved automatic detection function and associated with less adverse events, of the new generation's device.