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Patients with Ventricular Tachycardia and Ventricular Fibrillation can be Detected and Stopped with a Subcutaneous Implantable Defibrillator

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DESCRIPTION

An implantable medical device known as a subcutaneous implantable cardioverter defibrillator (S-ICD) is used to detect and stop ventricular tachycardia and ventricular fibrillation in patients who are at risk of sudden cardiac arrest. A type of implantable cardioverter defibrillator, the S-ICD lead is inserted just below the skin, leaving the heart and veins unaffected, in contrast to the transvenous ICD. The S-ICD was created to reduce the risk of transvenous lead-related complications. The S-ICD system minimizes or completely eliminates potential complications like bloodstream infections and the need to remove or replace heart leads. Because it is smaller than the S-ICD generator, the implanted device may be less obvious. Although this is debatable, it is possible that it will take longer to become accustomed to the implantable device as a result. Local anesthesia and mild sedation are typically sufficient for the procedure. Antitachycardia pacing (ATP) and bradycardia pacing are both delivered by the transvenous ICD. However, transvenous ICD patients had a numerically higher rate of device-related complications, and subcutaneous ICD patients had a lower rate of inappropriate shocks. The leads go into the vein and heart and will develop into the heart wall over the long haul. Because the procedure for extracting intracardiac leads can be difficult, this may raise the risk of complications in the event that the leads need to be removed or replaced. Since the leads must enter the heart, they must be relatively thin and flexible because they must flex with each heartbeat and pass through (and remain in) the heart valves. As a result, the leads are more likely to fracture and experience complications. It has been demonstrated that transvenous ICD patients had a numerically higher rate of device-related complications. The pulse generator is under the collarbone, so wearing clothing with a low neckline can make it stand out more. Because the lead does not enter the heart, the veins and heart remain unaffected. As a result, complications are less likely. The lead may be thicker and more durable because it does not enter the heart. The risk of lead fracture is reduced as a result. The procedure is relatively straightforward if the system needs to be transplanted. In comparison to the majority of transvenous ICD pulse generators, this one is larger. Although this is subjective, it could take longer to adjust as a result. The S-ICD may be more obvious with a bare chest, depending on a person's body type. Because tunnelling the lead over the sternum and carrying out defibrillation threshold testing can be extremely painful, the procedure typically necessitates either general or deep sedation. The S-ICD can only provide brief post-shock pacing, but it is unable to treat bradycardia or provide anti-tachycardia pacing. Subcutaneous ICD users had a numerically higher rate of inappropriate shocks. In the past, patients with subcutaneous implantable cardioverter–defibrillators were expected to undergo defibrillation testing to ensure that ventricular fibrillation was correctly detected.

CONCLUSION

The PRAETORIAN-DFT randomised clinical trial, on the other hand, aims to demonstrate that patients undergoing S-ICD implantation in which the S-ICD system components are optimally positioned according to calculated PRAETORIAN score do not benefit from omitting DFT. Typically, a transvenous ICD is inserted near the collarbone in the left shoulder. Sometimes certain patients or other specific reasons prefer the right side. In contrast to a transvenous ICD, the pulse generator and lead are inserted just below the skin above the breastbone on the left side of the chest, next to the rib cage.

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CONFLICT OF INTEREST

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