

Journal of Clinical & Experimental Cardiology

Outcomes of Coronary Stenting in Coronary Heart Disease

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DESCRIPTION

Coronary stenting is a medical procedure used to treat Coronary Artery Disease (CAD), which is a condition that occurs when the coronary arteries become narrowed or blocked due to the buildup of plaque. The stent is a small, mesh-like tube that is placed in the blocked or narrowed artery to keep it open and improve blood flow to the heart muscle. The procedure is typically done in a hospital or cardiac catheterization lab and is performed by a cardiologist. There are two types of stents used in coronary stenting: bare-metal stents and drug-eluting stents. Bare-metal stents are made of metal and are used to mechanically open blocked arteries. Drug-eluting stents, on the other hand, are coated with medication that helps prevent the artery from renarrowing.

The procedure of coronary stenting typically involves the following steps

Anesthesia: The patient is given a local anesthesia to numb the area where the catheter will be inserted, usually in the groin or wrist.

Catheter insertion: A small incision is made in the skin and a thin, flexible tube called a catheter is inserted into a blood vessel and guided to the blocked artery in the heart.

Angiography: A contrast dye is injected through the catheter and into the blocked artery, allowing the cardiologist to visualize the blocked area on an X-ray machine.

Balloon angioplasty: A small balloon is inflated inside the blocked artery, pushing the plaque against the artery walls and widening the artery.

Stent placement: The stent is then inserted into the artery and positioned in the widened area, where it is expanded to fit snugly against the artery walls and hold the artery open.

Post-procedure monitoring: After the stent is in place, the catheter is removed and the patient is monitored for a few hours before being discharged from the hospital.

During a coronary stenting procedure, a thin, flexible tube (catheter) is inserted into an artery in the wrist or groin and guided

guided to the blocked artery. A small balloon at the end of the catheter is inflated to push the plaque against the walls of the artery and open up the blockage. Then, a small metal mesh tube, called a stent, is inserted to keep the artery open and allow for proper blood flow. The stent is left in place permanently, providing a long-term solution for treating the blockage. Coronary stenting has become a common treatment for CAD, and it is often preferred over more invasive surgical procedures, such as Coronary Artery Bypass Grafting (CABG). Compared to CABG, coronary stenting has several benefits, including a shorter hospital stay, less pain, and a faster recovery time. In addition, the procedure can often be done on an outpatient basis, allowing patients to return home the same day.

Despite these advantages, coronary stenting is not without risks. The most serious complication is a blood clot that forms within the stent, called stent thrombosis. This can occur shortly after the procedure or even months later, and it can lead to a heart attack or other serious cardiac event. To prevent stent thrombosis, patients are usually prescribed antiplatelet medications, such as aspirin and clopidogrel, for several months after the procedure.

Another potential complication of coronary stenting is restenosis, which occurs when the artery narrows again after the stent has been inserted. This can happen if the body's natural healing response causes scar tissue to form around the stent, reducing blood flow once again. To prevent restenosis, drugeluting stents are often used, which release medication over time to prevent the formation of scar tissue. In addition, patients are advised to make lifestyle changes, such as quitting smoking and eating a healthy diet, to reduce the risk of future blockages.

The success rate of coronary stenting depends on several factors, including the location and severity of the blockage, the size of the artery, and the overall health of the patient. In general, the procedure is very effective at relieving symptoms and restoring blood flow to the heart. Studies have shown that more than 90% of patients experience immediate relief of symptoms, and the risk of a heart attack is significantly reduced. However, the long-term success of coronary stenting depends on the patient's adherence to a healthy lifestyle and medication regimen. Without these measures, the risk of future blockages and complications is increased. Patients are typically advised to make lifestyle changes,

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Received: 02-Jan-2023, Manuscript No. JCEC-23-23273; Editor assigned: 05-Jan-2023, PreQC No. JCEC-23-23273 (PQ); Reviewed: 19-Jan-2023, QC No. JCEC-23-23273; Revised: 26-Jan-2023, Manuscript No. JCEC-23-23273 (R); Published: 03-Feb-2023, DOI:10.35248/2155-9880.23.14.786

Citation: Steven I (2023) Outcomes of Coronary Stenting in Coronary Heart Disease. J Clin Exp Cardiolog. 14:786.

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such as quitting smoking, eating a healthy diet, and exercising regularly, to reduce the risk of future cardiac events. In addition, they may need to take medications, such as aspirin, beta blockers, and cholesterol-lowering drugs, for the rest of their lives to prevent future blockages. In conclusion, coronary stenting is a commonly performed procedure that is used to treat coronary artery disease and improve blood flow to the heart. While the procedure is generally safe and effective, it does come with some risks, and patients who undergo the procedure should be closely monitored for potential complications. As with any medical procedure, it is important for patients to discuss the risks and benefits of coronary stenting with their healthcare provider to determine if it is the right treatment option for them.