

Benefits and Procedure Involved In Coronary Angioplasty

Munehiro Yoshi*

Department of Cardiovascular Systems, University of Groningen, Groningen, The Netherlands

DESCRIPTION

Coronary angioplasty is a minimally invasive procedure that allows blocked coronary arteries to be opened. It is a type of surgery performed in life-threatening situations, such as a heart attack. Percutaneous Coronary Intervention (PCI) is another term for angioplasty. It is used to treat the symptoms of coronary heart disease, a condition in which plaque accumulates in the coronary arteries. This buildup leads to atherosclerosis, or artery hardening, over time. Atherosclerosis restricts blood and oxygen flow to the heart, causing angina (chest pain) and even a heart attack. During a heart attack, angioplasty and stenting may be performed to quickly open a blocked artery and reduce heart damage. Coronary angioplasty and stenting may help patients avoid more invasive coronary artery bypass surgery. Balloon angioplasty, Stenting, and the Bioresorbable Vascular Scaffold (BVS) are some coronary angioplasty techniques.

However, most angioplasties are performed on patients who have artery blockages. Patients who exhibit symptoms of blocked blood vessels in the heart are usually advised to undergo an angiogram to locate all blockages. It also aids in determining the severity of the heart blockage. The combination of angioplasty and stenting has transformed the treatment of coronary artery disease.

Types of angioplasty

Balloon Angioplasty: This is a procedure used to widen the arteries. The catheter with a small balloon on its tip is inserted by the physician and inflates the catheter as it approaches the blockage. It causes the artery at the site of the blockage to widen [1,2].

Stent Placement: This is a surgical procedure used to keep the blood vessels supplying blood to the heart muscle open. Doctors typically perform this procedure immediately following a heart attack. Patients who have angioplasty surgery immediately after a heart attack have a high chance of survival. As a result, if the patient has a heart attack, there should be no delay. If any person has symptoms of cardiac arrest, they should see a doctor right away [3,4].

Steps involved in coronary angioplasty

- A needle and a small wire are inserted after numbing the right radial artery.
- A guide wire and sheath are inserted into the artery.
- A "J" tipped wire is inserted through the sheath.
- It's flexible enough to avoid damaging the artery as it moves towards the heart.
- With the "J" wire in place, the physician will use a large X-ray camera to examine both sides of the heart and inject a contrast dye to see if there is a blockage.
- If there is a blockage and it is suitable for PCI, the intervention is started.
- The sheath remains in place, and catheters are swapped.
- A long "J" wire is threaded into the artery.
- The guide catheter is put in place.
- The interventional wire is introduced into the vessel.
- This wire will serve as a guide rail for the balloon stent.
- The stent is attached to the balloon and is guided down the wire guide to the obstructed artery.
- The balloon is inflated to make room for the stent, which is placed against the artery walls.
- The balloon is deflated and taken away.
- When the blood flow has been restored, the wires and catheters are removed, and the procedure is finished.

The advantages of angioplasty are, it is a minimally invasive procedure, the surgery is less expensive, local anesthesia is used (other types of heart surgery require general anesthesia), a very small incision is required, and it has a shorter recovery time.

CONCLUSION

When the arteries surrounding the heart become clogged with a fatty substance known as plaque, there is one surefire way to treat them and restore blood flow to the heart known as angioplasty. It is recommended in patients with conditions where the coronary bypass graft has closed or narrowed. It is also used to quickly open a blocked artery during a heart attack. This is a very common procedure that is successful in more than 90% of cases. Some early stages of Coronary Artery Disease (CAD) can be treated with medication as well as deliberate dietary and lifestyle changes.

Correspondence to: Munehiro Yoshi, Department of Cardiovascular Systems, University of Groningen, Groningen, The Netherlands, E-mail: munihero@45gmail.com

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REFERENCES

1. Astin F, Stephenson J, Probyn J, Holt J, Marshall K, Conway D. Cardiologists' and patients' views about the informed consent process and their understanding of the anticipated treatment benefits of coronary angioplasty: a survey study. *Eur J Cardiovasc Nurs.* 2020;19(3):260-268.
2. De Cannière D, Jansens JL, Goldschmidt-Clermont P, Barvais L, Decroly P, Stoupel E. Combination of minimally invasive coronary bypass and percutaneous transluminal coronary angioplasty in the treatment of double-vessel coronary disease: two-year follow-up of a new hybrid procedure compared with "on-pump" double bypass grafting. *Am Heart J.* 2001;142(4):563-570.
3. Berger PB, Velianou JL, Aslanidou Vlachos H, Feit F, Jacobs AK, Faxon DP, et al. Survival following coronary angioplasty versus coronary artery bypass surgery in anatomic subsets in which coronary artery bypass surgery improves survival compared with medical therapy: results from the Bypass Angioplasty Revascularization Investigation (BARI). *J Am Coll Cardiol.* 2001;38(5):1440-1449.
4. Rodriguez AE, Baldi J, Pereira CF, Navia J, Alemparte MR, Delacasa A, et al. Five-year follow-up of the Argentine randomized trial of coronary angioplasty with stenting versus coronary bypass surgery in patients with multiple vessel disease (ERACI II). *J Am Coll Cardiol.* 2005;46(4):582-588.