Difference Between Angioplasty and Stent

Key Difference - Angioplasty vs Stent

The recent advancements in science and engineering have paved the way for the introduction of new life-saving interventions in the medical field. Angioplasty is one such procedure which has been proven to be extremely effective in minimizing the deaths related to cardiovascular accidents. Angioplasty is a surgical procedure used to recanalize the blood vessels that are either narrowed or occluded whereas a stent is a wire mesh that is used in angioplasty. As the definitions state**, angioplasty is a surgical intervention whereas a stent is one device used in that procedure**. This is the **key difference** between these two terms.

What is Angioplasty?

Angioplasty is a surgical procedure used to recanalize the blood vessels that are either narrowed or occluded. Most often this surgical intervention is required to restore the coronary circulation by removing any obstruction in the coronary arteries.

Angioplasty is carried out while the patient is awake. A surgical incision is made into an artery, and a guide wire along with a balloon catheter is then inserted into the artery. A dye is also injected for the purpose of identifying any blockages in the vessels. With the use of live x-ray pictures, the guide wire is directed into the organ with the compromised blood supply (usually the heart). After reaching the site of obstruction, the balloon catheter is inflated thus, reopening the blocked vessel. Some of the stents are coated with a drug that can stimulate the expansion of the vascular smooth muscles.
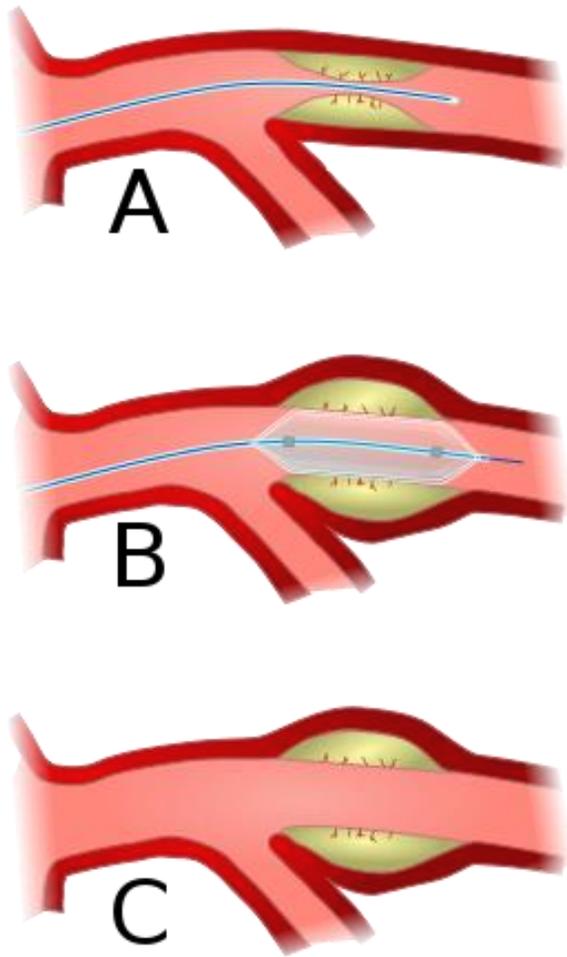
Fig 01: Angioplasty

Although angioplasty is an extremely effective way of treating ischemic heart diseases, it cannot be performed when the patient has multiple blockages in the coronary circulation or when the site of obstruction is difficult to be accessed.

Risks associated with angioplasty,

- Formation of thrombi and their embolization
- Damages to vital blood vessels or heart valves
- Deformation of the stent and subsequent occlusion of the vessel
- Arrhythmias

What is Stent?

A stent is a wire mesh that is used in angioplasty. The stent is also inserted into the artery along with the balloon catheter. It helps to keep the vessel inflated once the balloon catheter is removed.
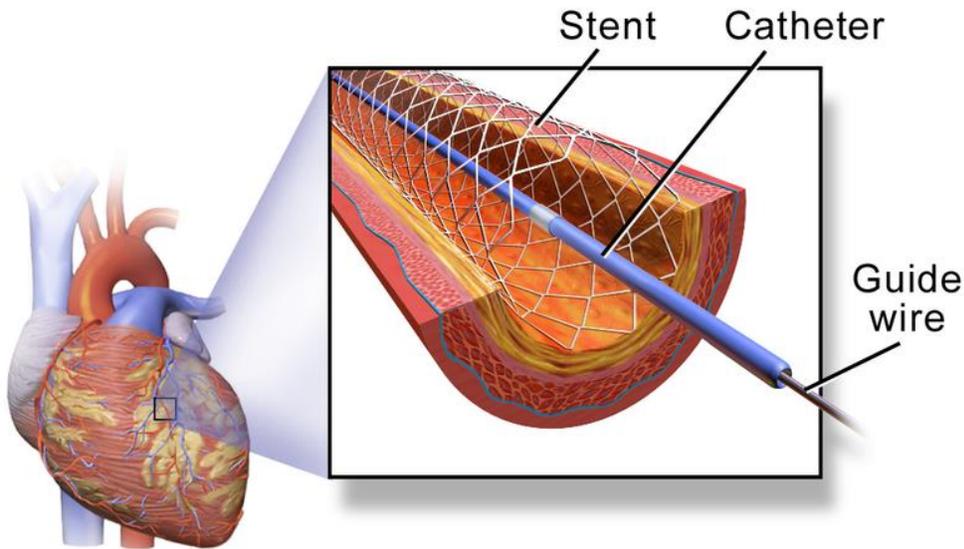
Fig 02: A Stent in the Coronary Artery

What is the Difference Between Angioplasty and Stent?

Angioplasty vs Stent	
Angioplasty is a surgical procedure used to recanalize the blood vessels that are either narrowed or occluded.	A stent is a wire mesh that is used in angioplasty.
Use	
Angioplasty is a surgical intervention used mostly in treating ischemic heart diseases.	A stent is a device that is used in angioplasty.

Summary - Angioplasty vs Stent

Angioplasty is a surgical procedure used to recanalize the blood vessels that are either narrowed or occluded, and a stent is a wire mesh that is used in this procedure. Angioplasty is, therefore, a surgical intervention which is mostly used in treating ischemic heart diseases whereas a stent is one device used in angioplasty. This is the major difference between these two terms.

Reference:

1.'Bailey and Love's Short Practice of Surgery'. Edited by Norman S Williams, Christopher J.K Bulstrode and P Ronan O'Connell, 26th ed., CRC Press , 2013.

Image courtesy:

How to Cite this Article?

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