

Despite an Important Anatomical Abnormality of the Coronary Artery

Naoto Yamamoto*

Tsukuba Vascular Center, Ibaraki, Japan

*Corresponding author: Naoto Yamamoto, Tsukuba Vascular Center, Ibaraki, Japan, E-mail: Yamam_Naoto@gmail.com

Received date: September 01, 2022, Manuscript No. IPJVES-22-14960; **Editor assigned date:** September 04, 2022, PreQC No. IPJVES-22-14960 (PQ); **Reviewed date:** September 15, 2022, QC No. IPJVES-22-14960; **Revised date:** September 25, 2022, Manuscript No. IPJVES-22-14960 (R); **Published date:** September 30, 2022, DOI: 10.36648/J Vasc Endovasc Therapy.7.9.117

Citation: Yamamoto N (2022) Despite an Important Anatomical Abnormality of the Coronary Artery. J Vasc Endovasc Therapy: Vol.7 No.9: 117

Description

Despite an important anatomical abnormality of the coronary artery, the treatment options of CAAs are still poorly defined. Therefore, in real world practice, it poses a challenge to cardiologist in deciding the modality of treatment. Nevertheless, depending on clinical condition, etiology and associated lesions, either medical treatment (anti-platelet drugs, anti-coagulation) or PCI, and surgical repair can be considered. In our case, surgery was considered; but our cardiothoracic team opined a very high surgical risk in that clinical situation. Therefore, we opted for percutaneous treatment as an alternative mode of therapy. However, there were certain challenging issues for percutaneous approach in this case. Nature of the aneurysm-true or false, and related risk of aneurysm rupture during intervention.

Carotid Endarterectomy

Inability to delineate the full extension of the aneurysm as well as the distal coronary artery, and thus difficulty in assessing the distal landing zone of stent or any device. Rapidly deteriorating condition of the patient preventing proper pre-assessment and planning. In fact, due to rapidly deteriorating hemodynamic condition we had to introduce Intra-Aortic Balloon Pump (IABP) from right femoral approach. Right coronary artery was engaged with a 6 French Right Judkin's guide catheter. A 014 inch soft floppy tipped guide wire was used to cross the stent, but it was repeatedly falling into the aneurismal sac. Finally, after repeated attempts stent could be crossed and wire was parked distally. Proximal end of the stent was gradually dilated with a 1.2 mm × 6 mm, and 2 mm × 10 mm balloons with a final dilatation using 3 × 15 mm noncompliant balloon at 12 atmospheric pressure. A 2.8 mm × 19 mm covered stent (Graft- Master, Jostent, Abbott Vascular Devices Santa Clara, Calif.) was positioned at the point from where the aneurysm was thought to be filled, and was deployed at 18 atmospheric pressure. Post angiogram showed persistent leak into the aneurysm.

Inability to delineate the full extension of the aneurysm as well as the distal coronary artery, and thus difficulty in assessing the distal landing zone of stent or any device. Rapidly deteriorating condition of the patient preventing proper pre-assessment and planning. In fact, due to rapidly deteriorating hemodynamic condition we had to introduce Intra-Aortic

Balloon Pump (IABP) from right femoral approach. Right coronary artery was engaged with a 6 French Right Judkin's guide catheter. A 014 inch soft floppy tipped guide wire was used to cross the stent, but it was repeatedly falling into the aneurismal sac. Finally, after repeated attempts stent could be crossed and wire was parked distally. Proximal end of the stent was gradually dilated with a 1.2 mm × 6 mm, and 2 mm × 10 mm balloons with a final dilatation using 3 × 15 mm noncompliant balloon at 12 atmospheric pressure. A 2.8 mm × 19 mm covered stent (Graft- Master, Jostent, Abbott Vascular Devices Santa Clara, Calif.) was positioned at the point from where the aneurysm was thought to be filled, and was deployed at 18 atmospheric pressure. Post angiogram showed persistent leak into the aneurysm.

Pulmonary Endarterectomy

Despite an important anatomical abnormality of the coronary artery, the treatment options of CAAs are still poorly defined. Therefore, in real world practice, it poses a challenge to cardiologist in deciding the modality of treatment. Nevertheless, depending on clinical condition, etiology and associated lesions, either medical treatment (anti-platelet drugs, anti-coagulation) or PCI, and surgical repair can be considered. In our case, surgery was considered; but our cardiothoracic team opined a very high surgical risk in that clinical situation. Therefore, we opted for percutaneous treatment as an alternative mode of therapy. However, there were certain challenging issues for percutaneous approach in this case: 1) Nature of the aneurysm-true or false, and related risk of aneurysm rupture during intervention) Inability to delineate the full extension of the aneurysm as well as the distal coronary artery, and thus difficulty in assessing the distal landing zone of stent or any device. Coronary artery aneurysms after percutaneous coronary intervention are rare, with a reported incidence of 0.3% to 6.0%; and giant CAAs are very rare with a reported incidence of 0.02%. Majority of giant CAAs involve the RCA adjacent to the rightatrium, indicating that the adjacent area of atrial tissue is weak that helps in the formation and enlargement of aneurysm. These mechanical consequences may finally lead to the perforation of the media without penetration of blood through the adventitia resulting in aneurysm formation. Other possible contributory mechanisms of aneurysm are incomplete endothelialization of DES, and late acquired incomplete stent apposition, which is observed in 8% to 10% of patients with DES

[10]. The stent used in our case was an Evorolimus-eluting polymer coated stent, but technical details of angioplasty were not known as it was performed in another centre. Arterial injury related to procedure is the likely contributor to aneurysm formation in these cases rather than the chronic arterial response to the stent, polymer, and drug. Type II aneurysm presents slowly (sub-acute to chronic), and usually is detected

within 6 months or more after the procedure. Chronic arterial response to components of stent is considered as the basis for this type of aneurysm formation. Finally, Type III aneurysm is of mycotic or infectious in etiology. This is rare, and patients typically present with systemic manifestations and fever secondary to bacteremia. Our case has characteristics of type I aneurysm