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CASE SUMMARY-CASE 1

Successful Tevar in a 28 year old Female Through Hybrid Approach

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Aortic dissection is common in patients with Marfan syndrome, especially in pregnancy and postpartum. We report a 28-year-old female, who is 9 months postpartum and presented with sub-acute onset of chest and back pain for 6 months with an episode of syncope 20 days ago. On evaluation, she was diagnosed with DeBakey type III aortic aneurysm extending from thoracic aorta to infrarenal aorta. Dissection was noted with contained thrombus with complete occlusion of true lumen in thoracic aorta. Celiac and left renal arteries were arising from false lumen whereas superior mesenteric artery (SMA) and right renal arteries were from true lumen. Given the complexity of the diagnosis, a hybrid approach was undertaken where the arch vessels were debranched and a conduit was created in the ascending aorta for access. True lumen was entered from the abdominal aorta and the wire was exteriorized from the conduit. Two stent grafts 28x24x200 and 30x30x200 were deployed with successful exclusion of the aneurysm with restoration of flow. Patient had an uneventful postoperative course and was discharged on dual antiplatelets. Thorough anatomical understanding and a multi-disciplinary approach are essential for the flawless management of patients with complex conditions.

Keywords: Marfan Syndrome, Aortic Aneurysm, Tevar

CASE SUMMARY-CASE 2

Catheter Closure of Triple Whammy Circular Shunt in a Young Infant: A Curious Case

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Circular shunts are interesting as well as devastating as they preclude effective forward cardiac output. We report the device closure of an iatrogenic circular shunt in a 6-month-old infant. The baby was diagnosed with transposition of great arteries with a large ventricular septal defect and mild hypoplasia of the tricuspid valve and right ventricle. The baby underwent an arterial switch operation with a 4mm fenestration in the ventricular septal defect (VSD) patch along with a 4mm modified Blalock Taussig shunt to maintain pulmonary blood flow. During the postoperative period of three months, the baby improved in terms of weight and hemodynamics. The fenestration in the VSD patch was however behaving as a circular shunt from left ventricular and right atrial (LV-RA). The hemodynamics were furthermore complicated due to the presence of a sizeable (ASD) and a blalock-taussig (BT) shunt. The baby was planned for transcatheter closure of the defect which was initially closed with an 8x6 mm multifunctional occluder device. This device however caused a complete heart block and hence the device was changed to a softer amplatzer duct occlude (ADO) II device. The baby was discharged successfully post-procedure and is well at 1-year follow-up. An individualized approach with staged palliations and a wholesome team approach is the way to go to salvage these children with complex lesions.

Keywords: Complex cyanotic congenital heart disease (CHD), Arterial switch operation, Circular shunt, Catheter closure of VSD, ADOII device, Multifunctional occluder

CASE SUMMARY-CASE 3

The Story of a Complicated Left Main Bifurcation Stenting

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A 56-year-old male patient, hypertensive, non-diabetic was admitted with the diagnosis of anterior wall myocardial infarction at another cardiac centre where he underwent primary percutaneous coronary intervention (PCI). Left main to left anterior descending artery crossover stenting with 4.0 X 38 mm drug-eluting stent (DES) was done following which ostial left circumflex (LCX) pinching was noted. Hence left main to LCX stenting with 3.5 X 24 mm DES was done. However, there were no detailed reports or angiographic images of the bifurcation technique used. The patient presented to our hospital after 6 months with class III angina. Coronary angiogram revealed crushed and distorted proximal edge of LCX stent in distal left main coronary artery (LMCA) and 90% in-stent restenosis of ostial LCX. We performed optical coherence tomography (OCT)-guided reintervention of the failed left main bifurcation. The patient underwent Left main to LCX stenting with 3.5 x 23 mm DES and plain ballooning to LAD followed by proximal optimization in left main with a 5.0 x 8 mm noncompliant balloon. Recrossing into the LCX across the crushed proximal stent struts was the

difficulty faced requiring multiple wires. Finally, a good result was achieved and patient was asymptomatic at 6 months follow-up.

Keywords: Myocardial Infarction, Left main, Bifurcation Stenting

CASE SUMMARY-CASE 4

Major Epicardial Coronary Perforations: Are we Battle Ready

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In our first case, a 55-year-old diabetic male while trying to deploy a stent in the mid-left anterior descending artery without adequate dilatation, developed a TYPE III Ellis perforation, pericardial collection with hemodynamic instability. We managed it successfully with a stent graft. In our second case a 61-year-old male smoker, with multivessel coronary Artery disease (CAD), while performing multivessel angioplasty developed type III perforation during post dilatation. He was again managed successfully with quick stent graft deployment. Type III Coronary perforations in major epicardial coronaries are the most dreadful nightmares. Quick identification of site and extent in multiple projections and treating them accordingly is of paramount importance. All hospitals should have stent grafts on the shelf as they can salvage the situation completely if deployed quickly and correctly. It is also important to learn the reasons for the mishap and prevent its recurrence in the future.

Keywords: Coronary Artery Disease, Coronary Perforation, Angioplasty

CASE SUMMARY-CASE 5

Post Bentall Procedure and LIMA to LAD: Managing a Rare Case of 100 Percent LMCA Occlusion with a Stuck Aortic Valve

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We present a rare case of a 63-year-old hypertensive male who presented to emergency with excruciating angina and hypotension. His electrocardiography (ECG) revealed a true posterior wall myocardial infarction with atrioventricular dissociation and echocardiography showed wall motion abnormality in circumflex territory, with a moderate mitral regurgitation. He had a bicuspid aortic valve and post stenotic dilatation for which a bentalls procedure had been done 12 years back and an internal mammary had been placed in a distal left anterior descending artery. He stopped anticoagulation on his own for the last few months. His coronary angiogram revealed left main coronary occlusion with a partially stuck aortic valve. We successfully revascularized his left main occlusion with thrombosuction and percutaneous transluminal coronary angioplasty (PTCA) alone, and no stent was deployed. His aortic valve function returned to normal, and he recovered 1:1 atrio-ventricular (AV) conduction within 48 hours. Encountering coronary occlusions 10 years post valve replacement and bentalls procedures are uncommon. It is important to document anticoagulation status which can guide treatment strategies. Hooking the neoostia from the radial route is challenging but can be done with caution and care. Thrombosuction should be mandatorily performed in high thrombotic burden situations to avoid another implant insertion in these cases.

Keywords: Bentalls Procedure, Aortic Valve, Anticoagulation

CASE SUMMARY-CASE 6

Searching for the Light at the End of the Tunnel

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A 38-year-old lady presented with acute anterior wall myocardial infarction. A coronary angiogram showed occlusion of the left anterior descending (LAD) after the diagonal. During angioplasty to the LAD wire and balloon passed easily but the flow in LAD stopped just after the left main. We stented the LAD with a drug-eluting stent and post-dilated with a noncompliant balloon considering the possibility of thrombus migration. Due to haziness in the left main, we did optical coherence tomography (OCT) which revealed a dissection in the left main and wire passing from true to false and again in the true lumen and the proximal part of the stent was in false lumen compressing the true lumen. We implanted another stent from the left main to LAD overlapping with the distal stent and did post-dilatation and proximal optimization. Post-stenting OCT showed a well-expanded stent without any malapposition. Guide-induced dissection in acute myocardial infarction (MI) situations is difficult to distinguish from thrombus. Imaging in this scenario is very helpful.

Keywords: Left anterior descending, Angioplasty, Optical Coherence Tomography

CASE SUMMARY-CASE 7

Zero Metal LM Bifurcation PCI In ISR

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A 45-year-old diabetic, hypertensive lady with a history of angioplasty to right coronary artery (RCA) and left anterior descending coronary (LAD) had non-ST elevation myocardial infarction (NSTEMI) later. Angiography then revealed left main 50% stenosis and LAD 80% in-stent restenosis (ISR), ostio proximal RCA 90%, stenosis, mid-stent instent stenosis (ISR), and diffuse posterior left ventricular (PLV) disease. She underwent Left main, LAD bifurcation, and RCA angioplasty. She presented to us with NSTEMI. coronary angiogram (CAG) now showed repeat ISR of LAD and left circumflex (LCX) as well as RCA. We planned to do percutaneous coronary intervention (PCI) using drug eluting balloon (DEB) and use of a stent only if there is any major dissection. Optical coherence tomography (OCT) showed under-expanded stents both in LAD and circumflex with neo-intimal hyperplasia. We first prepared the lesions in both vessels noncompliant and cutting balloons. We then deployed a 2.5 X 20 drug-eluting balloon (DEB) into distal LAD. We then did a kissing balloon dilatation of LAD (3X12mm) and LCX (3X10 mm) at 12 atm. We did modified proximal optimization of the left main with a 3.5X8 mm balloon. We then deployed 3.0X14 mm DEB into proximal LAD and 3.0 X17 mm DEB into ostioproximal LCX followed by final kissing balloon inflation. Post-procedure optical coherence tomography (OCT) showed good lumen gain without any major dissection.

Keywords: Bifurcation, Drug eluting balloon, Instent stenosis

CASE SUMMARY-CASE 8

Making a LM Neo Ostia

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A 36-year-old diabetic, hypertensive male with a history of exertional angina of 3 months duration presented to us with unstable angina. Coronary angiogram revealed severe left main ostial disease with left main bifurcation 90% stenosis Medina 1,1,1 lesion. The patient was advised bypass surgery but he developed chest pain during the procedure for which left main bifurcation stenting using the Culotte technique was performed. First distal left anterior descending (LAD) was stented and then the left main to LAD stent was deployed. After proximal optimization (POT) and rewiring of the left circumflex (LCX), the balloon passed easily into LCX through the left main stent struts. The stent boost revealed that the left main stent is overstretched and is hanging in the aorta probably pulled by the noncompliant balloon. So we decided to create a new left main ostium. We rewired LCX and placed a stent from the Left main to LCX and post-dilated it. We finished the procedure with final kissing balloon dilatation and final POT. Intravascular ultrasound showed well expanded and apposed stents.

Keywords: Bypass Surgery, Culotte technique, Proximal Optimization

CASE SUMMARY-CASE 9

Drug Eluting Balloon for Coronary Bifurcation Lesion: A `Hybrid Strategy'

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A 64-year hypertensive male patient with effort angina underwent coronary angiography which showed a bifurcation lesion in the left anterior descending (LAD) and diagonal (D1) arteries (Medina 1,1,1). D1 lesion was crossed with 0.014" run-through wire. Predilatation of D1 done with 1.5X8 mm semi-compliant balloon with good angiographic result (≤ 30 % residual diameter stenosis, TIMI 3 flow & no dissection). Drug-eluting balloon (DEB) Angioplasty done with 2.0X10 mm Magic Touch as per drug eluting balloon (DEB) application guidelines. LAD lesion was crossed with 0.014" run through NS wire & predilated with 2.0 X 12 mm balloon at 14 ATM pressure.3.0X48 drug eluting stent (DES) was deployed at 14 atmospheres (ATM) & post dilated with 3.5 X8 mm noncompliant (NC) balloon. The application of a 'hybrid strategy' combining a DES in the main branch and a drug coated balloon (DCB) in the small caliber (≤ 2mm) side branch (SB) provides an advantage in coronary bifurcation lesion percutaneous coronary intervention (PCI) by reducing the total stent length while maintaining effective antiproliferative action.

Keywords: DCB-Drug coated balloon, DES- Drug eluting stent, Coronary bifurcation lesion, Hybrid strategy

CASE SUMMARY-CASE 10

Type III Stent Fracture during Ostial Rca Stenting in a Case of Takayasu Arteritis

Varsha Koul[1]

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A 38-year-old lady with Takayasu aorto-arteritis and a history of right-sided hemiparesis and bilateral carotid and subclavian stenosis. She was on regular treatment with methotrexate, low-dose steroids, and antiplatelets. Because of exertional angina, she underwent coronary angiography which showed mild ostial disease of the Left main stem and 90% Stenosis of dominant ostial right coronary artery (RCA). During Percutaneous transluminal coronary angioplasty (PTCA) of the right coronary artery. 0.014" Whisper wire was used to cross the lesion and the lesion was predilated using a 2.5 X 12 mm semi-compliant balloon. 4.0 X 18 mm Sirolimus-eluting stent was deployed in ostial RCA at nominal pressure (11 atmospheres (ATM)). Post-dilatation of the stent was done using a 4.5 X 12 mm NC balloon at 12 atmospheres. However, on stent boost images, a clear Type III stent fracture was visualized. A second 4.0 X 18 mm sirolimus-eluting stent was deployed across the first stent and was post-dilated with a 4.5 X 12 noncompliant balloon achieving a good result. She is asymptomatic at 10 months of follow-up. A stent fracture occurred even though the stent was deployed at nominal pressure and without overly post-dilating the stent. Whether the underlying aortoarteritis had any role to play in the fracture of this stent cannot be ascertained. However, one has to be vigilant for any complications and deal with them promptly to avoid major catastrophic events.

Keywords: Takayasu Arteritis, Sirolimus eluting stent, Methotrexate

CASE SUMMARY-CASE 11

Angioplasty and Stenting of Long Segment Right SFA Total Occlusion

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A 54-year-old female with a history of smoking and long-standing diabetes with diabetic retinopathy had ischemic cardiomyopathy with severe left ventricle (LV) systolic dysfunction. She also had peripheral arterial disease with the amputation of 3 toes on the right side and a non-healing ulcer on the right foot. She was previously admitted with septic shock when there was the presence of maggots in the wound and underwent multiple debridement surgeries. She underwent peripheral angiography which showed a long segment total occlusion of the right superficial femoral artery. With left femoral access a crossover sheath was placed and Cross IT 200 wire was used to cross the lesion using a multipurpose guiding catheter with microcatheter support. Cross IT 200 wire was exchanged to Command ES 300 cm wire. The lesion was sequentially pre-dilated with a 2.5 x 12 balloon followed by a 3 x 60 mm and a 5.5 x 30 mm balloon. A 5.5 x 200 mm flexible nitinol peripheral stent was deployed in the right superficial femoral artery (SFA). The patient is asymptomatic at 2 years follow-up. The ulcer had healed and the patient could walk without support. Aggressive treatment of peripheral arterial disease both medically as well as by intervention can go a long way in improving the quality of life of such patients.

Keywords: Angioplasty, Peripheral Arterial disease, Total Occlusion

CASE SUMMARY-CASE 12

Bifurcation Stenting in a Case of Acute STEMI with Bradycardia and Hypotension

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A 49-year-old male, normotensive, nondiabetic, and smoker presented to the emergency with inferior ST elevation myocardial infarction. The

patient had bradycardia and hypotension and was immediately shifted to the cardiac catheterization lab for coronary angiography and revascularization. Temporary pacemaker insertion was done from the right femoral venous route followed by coronary angiography which showed 100% occlusion of the Left circumflex artery (LCX) with a large thrombus burden. BMW Wire was used to cross the lesion in LCX. After dottering using a 2.5 x 12 mm balloon, a true bifurcation lesion was seen in LCX and obtuse marginal (OM) (Medina 1,1,1). Both vessels were predilated sequentially using a 2.5 x 12 mm balloon. A 3.0X 36 mm Sirolimus-eluting stent was deployed in OM1 and was post-dilated using a 3.5 x 12 mm noncompliant balloon. After recrossing the Stent and sequential balloon dilatation a 3.0 x 16 mm Sirolimus eluting stent was deployed in LCX. Simultaneous Kissing Balloon inflation was done followed by final proximal optimization. The patient is asymptomatic at 2 years of follow-up. In STEMI with total occlusions, surprises may be unearthed like bifurcations, heavy calcifications. Any bifurcation technique that can achieve the best results in the shortest possible time is beneficial.

Keywords: Bifurcation, Revascularization, Proximal Optimization

CASE SUMMARY-CASE 13

A Crush Reversed

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A 63 year old female presented with acute coronary syndrome, and her coronary angiography showed 80% stenosis of the mid left anterior descending artery (LAD) involving the ostium of major diagonal Medina (0,1,1). An upfront 2-stent strategy using double kiss (DK) crush was planned considering the bifurcation angle and the difference in caliber of vessels After dilatation, there was slow flow with dynamic ST-T changes for which diagonal had to be stented first. Hence the procedure was bailed out by using the reverse crush technique. DK crush is the most extensively studied two-stent bifurcation technique and is proven superior to culotte and TAP techniques with good long-term outcomes. Knowing all the contemporary bifurcation strategies helps to bail out the situation. The optimal result especially in terms of stent expansion is much more important than the selection of a specific two-stent technique.

Keywords: Acute Coronary Syndrome, Double Kiss Crush, Bifurcation

CASE SUMMARY-CASE 14

The Road Less Traveled: Coarctation Stenting through the Left Radial Route

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A 32 years old female who was diagnosed with coarctation of the aorta underwent a computed tomography (CT) aortogram to delineate the anatomy of the coarctation which revealed a critical stenosis amounting to near interruption of the arch with extensive collaterals from the subclavian artery Intervention was at first attempted through the right femoral route and the coarctation segment could not be crossed with 0.014 inch coronary wire owing to its tightness and tortuosity. A left radial access was then taken and a Cross IT 100 coronary wire along with microcatheter was used to negotiate the coarctation segment. The arterio-arterial loop was completed and the remaining procedure was completed through the femoral access. A balloon-expanding covered stent Bentley 16x 38mm was deployed across the coarctation and progressively dilated with 16 and 18mm Atlas gold balloons. This case highlights the complex anatomy of coarctation in adult patients and the techniques to out-maneuver these.

Keywords: Coarctation, Subclavian Artery, Radial route

CASE SUMMARY-CASE 15

A Case of Pyopericardium with Tamponade in HIV Patient

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Acute pyopericardium due to tuberculosis is uncommon even in high-prevalence countries. We report a rare case of acute pyopericardium with tamponade due to tuberculosis in human immunodeficiency virus (HIV)-positive patients. Catheter drainage of pyopericardium under echocardiography guidance and six months course of anti-tubercular treatment along with antiretroviral therapy, resulted in complete recovery, without any sequelae during the follow-up period.

Keywords: Pyopericardium, Tuberculosis, HIV, Tamponade

CASE SUMMARY-CASE 16

Atretic Coronary Sinus Opening into Persistent Left Superior Vena Cava

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A 73-year-old lady with hypertension presented with congestive cardiac failure of 3 months duration. She had class I indication for cardiac resynchronization therapy. The coronary sinus could not be cannulated despite multiple attempts. Evaluation of left coronary angiogram levophase and left subclavian venogram revealed that the coronary sinus ostium (OS) is atretic with persistent left-sided superior vena cava (PLSVC). The tortuosity & and angulation of the venous channel prevented the positioning of the coronary guidewires. Eventually, left bundle branch block (LBBB) pacing was done using St Jude SN 58 cm lead with a QRS width of 144 msec. On follow-up symptoms and left ventricular ejection fraction improved. In the presence of Coronary sinus atresia with coronary sinus draining into the PLSVC left bundle branch area pacing has helped the patient to recover from heart failure.

Keywords: Coronary Sinus, Left Bundle Branch, Heart Failure

CASE SUMMARY-CASE 17

Utility of Femoral Traction to Improve Safety during Transvenous Lead Extraction

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Infection is the most common indication for lead extraction with an increasing number of cardiac implantable electronic devices (CIED) implantations. Manual mechanical dilatation sheaths or those powered mechanically or that use laser energy are safe methods of extraction to avoid major complications like perforation, and avulsion. The objective is to assess the safety and feasibility of lead extraction using femoral traction. We present 3 cases that underwent lead extraction with femoral traction. The indication for extraction was the infection of the pocket. The extraction was done with laser and Spectranetics extraction tools and femoral station to apply traction on the leads: The procedure is done with all preparedness for open heart surgery with cardiac surgeon standby. The Transesophageal echocardiography (TEE) probe is placed for assessment of pericardial tamponade. 3 venous access are obtained 1) femoral vein for temporary pacemaker implantation (TPI), 2) femoral vein for potential Bridge balloon 3) femoral vein for traction. Femoral traction creates a strong rail, reduces tension on biological tissues, and creates a more favorable geometry by avoiding focal "tenting" of superior vena cava (SVC) tissue into the extraction sheath path by creating separation between the lead and the SVC wall. It facilitates a more vertical extraction sheath orientation within the SVC. This technique should be considered when approaching vigorous SVC adhesion sites, especially when utilizing powered sheaths.

Keywords: Femoral Vein, Venous Access, Superior Venacava

CASE SUMMARY-CASE 18

A Dynamic Enigma: Rate Dependent Left Bundle Branch Block (RD-LBBB)

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A 65-year-old female was referred from the ENT department for Cardiac fitness for surgery, newly diagnosed with hypothyroidism. Her Electrocardiography (ECG) showed sinus rhythm, with a heart rate of 80 bpm, and regular with inverted T waves in I, aVL, II, aVF, V3-6. 2D-echocardiography was normal and was advised treadmill test, during which the patient developed rate-dependent left bundle branch block (RD-LBBB) with Chest pain and was advised coronary angiogram. Coronary angiogram revealed underlying coronary artery disease, involving left anterior descending (LAD proximal to mid-long segment 90% lesion and left circumflex (LCX ostial 20-30% stenosis and proximal to distal long segment 90% lesion) which was successfully managed with angioplasty and stenting to LAD and LCX. RD-LBBB is a rare electrocardiographic occurrence that may be detected during Exercise testing. Patients with RD-LBBB are usually considered benign, but its presence may be associated with higher all-cause mortality rates. The occurrence of RD-LBBB during treadmill (TMT) may be direct evidence for ischemia as seen in our case.

Keywords: Rate-Dependent left bundle branch block, RD-LBBB, Coronary artery disease, Coronary Artery disease (CAD), A dynamic enigma

CASE SUMMARY-CASE 19

Balloon Uncrossable Lesion – Using All the Tools

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A 72-year-old male patient with diabetes presented with effort angina. On coronary angiograms, calcific triple vessel disease was noted. He underwent successful angioplasty with rotablation and implantation of two drug-eluting stents in left anterior descending (LAD) and proximal left circumflex (LCX) to major obtuse marginal. During staged angioplasty to Right coronary artery (RCA), though the microcatheter failed to cross directly with Rota Drive wire was successful. Even after multiple attempts, the rota burr (1.25mm) could not cross the lesion. As a next step, Excimer laser coronary angioplasty (ELCA) was done with a 0.9mm catheter. Even upon increasing the fluency and rate, the catheter could not cross the tightest segment of the lesion. Post ELCA, the lesion was successfully crossed with a 0.85mm NIC Nano balloon. Further serial dilatations were done with 1.25mm, 1.5mm, and 2mm balloons. A 2.25X28mm DES was successfully deployed in mid-RCA with a good result and TIMI III flow. The use of ELCA modified the proximal plaque morphology thus facilitating the balloon delivery. Sequential and simultaneous application of lesion modification techniques (Rotablation, LASER, rotational and excimer LASER coronary atherectomy (RASER)) can result in successful treatment of these challenging lesions.

Keywords: Triple Vessel Disease, Excimer Laser Coronary Angioplasty, Drug Eluting Stent

CASE SUMMARY-CASE 20

Man Proposes God Disposes

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A 33-year-old female presented with non-ST elevation myocardial infarction. She was a diabetic who underwent multiple coronary angioplasties in the last year. She had angioplasty with drug-eluting stent (DES) to the left anterior descending artery (LAD) first followed by another angioplasty with DES from the left main to LAD due to in-stent restenosis (ISR). Again, she presented with instent stenosis (ISR) and underwent intravascular ultrasound (IVUS) followed by angioplasty with a drug-eluting balloon to LAD. Imaging failed to reveal the cause for repeated in-stent restenosis. Coronary angiography in present admission was suggestive of ISR in left main coronary artery (LMCA) and LAD stents with 99% and 80% stenosis respectively. Left circumflex (LCX) ostium had 90% stenosis. She was advised bypass surgery and started on intravenous heparin along with a full dose of antiplatelets, statins, and antianginals. She suddenly crashed at night and had to be taken for intervention. Angioplasty with implantation of two Drug eluting stent (DES) from left main to LAD was done with plain ballooning to LCX. Thrombochek profile was normal but low-density lipoprotein (LDL) was highly elevated up to 200 mg/dl despite high dose of statin. Bempedoic acid and ezetimibe were added to the regimen. LDL came down to 60 mg/dL. Assessing multiple facets apart from not only performing interventions can solve complex problems.

Keywords: Instent restenosis, Intravascular ultrasound, Left main coronary artery

CASE SUMMARY-CASE 21

A Rollercoaster Ride

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An elderly lady with a history of hypertension and diabetes was admitted with pulmonary oedema due to accelerated hypertension. She was evaluated for pheochromocytoma because of labile hypertension observed after admission requiring intravenous antihypertensive drugs at one time and requiring inotropes at another time during hospital stay. Contract enhanced

CT (CECT) abdomen and blood investigations led to the diagnosis of pheochromocytoma for which she underwent adrenalectomy. The diagnosis of pheochromocytoma is rare in an elderly woman with most being incidentalomas. In contrast, in our patient a tumor was detected due to symptomatic presentation.

Keywords: Accelerated Hypertension, Pheochromocytoma, Adrenalectomy

CASE SUMMARY-CASE 22

Close Shave with Coronary Perforation

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A 65-year-old diabetic female who was treated for non-ST elevation myocardial infarction 1 year back with good left ventricular systolic function. Because of recurrent angina a coronary angiogram was done which revealed triple vessel disease. Right coronary artery (RCA) was engaged using a 6F AR 2.0 guide catheter. The lesion was crossed with Fielder FC wire and was predilated using a 2.0 X 15 noncompliant (NC) balloon followed by stenting distally with 2.5 x 48 drug-eluting stent (DES) and proximally with 2.75 x 21 drug eluting stent (DES) and post-dilated with 2.75 x 15 NC balloon. Type III coronary perforation of mid-RCA into the pericardial cavity was noted for which balloon holding with 2.75 x 15 NC balloon for 5 mins was tried, the perforation seemed to hold off. It was decided to deploy a covered stent of 2.75 x 19 Graftmaster which was not tracking despite repeated attempts. 6F Femoral access with a JR 3 guide was used and the proximal stent was post dilated with a 3.0 x 10 NC balloon. We reattempted to place a graftmaster which failed to track. There was more extravasation. Finally, we could succeed with prolonged balloon holding, intermittently for half an hour. Echocardiography showed mild effusion and, was not tapped, she was hemodynamically stable after the procedure. Type 3 coronary perforations rarely seal with prolonged balloon dilation. We highlight the importance of careful stent and balloon assessment to prevent coronary perforations.

Keywords: Coronary Perforation, Drug Eluting Stent, Triple Vessel disease

CASE SUMMARY-CASE 23

The Journey of Amyloidosis - The Great Mimicker

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A 50-year-old female patient initially treated as moderate pulmonary arterial hypertension of unknown etiology presented to our hospital with shortness of breath [New York Heart Association (NYHA) class II] and pedal edema. After evaluation, the diagnosis of rheumatic heart disease mild mitral stenosis, mild mitral regurgitation, and moderate pulmonary arterial hypertension was made and treated. After 6 months, the patient was admitted with symptoms of dyspnoea (NYHA class III), easy fatigability, history of change in voice, multiple joint pains, burning sensation of feet and hands and dryness of mouth and eyes. On clinical examination, there was macroglossia, bilateral conjunctival redness, hyperemic fingers and suffused soles. Cardiovascular examination showed elevated jugular venous pulse, loud pulmonary component of second sound with ejection systolic murmur of grade 3/6 in the pulmonary area. Electrocardiogram showed sinus rhythm with low voltage complexes, first-degree AV block, and pseudo infarct pattern. Echocardiogram showed biatrial enlargement with increased interventricular septal thickness, thickened valves with restricted mobility, preserved biventricular systolic function, grade III LV diastolic dysfunction, severely reduced mitral annular tissue Doppler velocity Severe Pulmonary Arterial Hypertension and mild pericardial effusion. Evaluation done to rule out amyloidosis showed raised NT pro BNP, negative urine bence jones proteins, Kappa 16.8 Lambda 337 K/L 0.04, positive abdominal fat pad biopsy for amyloidosis, and normal immune fluorescence electrophoresis. Cardiac MRI showed nulling of myocardium before blood in T1 SCOUT and global transmural delayed hyperenhancement involving the subendocardium of ventricles, atria and interatrial septum. The diagnosis of primary amyloidosis (AL) (Cardiac, Renal, Eye, Tongue, and Nerve) was made and treated with chemotherapy and steroids. After one year she developed acute pulmonary thromboembolism and lysed with streptokinase. Meanwhile there is progression of symptoms, severe right ventricular systolic dysfunction and congestive cardiac failure. This case is presented here to emphasize that Amylodosis is a Pandora box, unraveling the mysteries behind it needs a lot of understanding and knowledge about the disease.

Keywords: Rheumatic Heart Disease, Pulmonary Arterial Hypertension, Amylodosis

CASE SUMMARY-CASE 24

Overlapping Scaffolds in Subtotal Occlusion

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A 42-year-old lady known diabetic with effort angina, underwent a coronary angiogram after a positive Treadmill stress test for inducible ischemia. Examination showed critical single vessel disease involving right coronary artery proximal 60% stenosis followed by mid-subtotal occlusion. Optical coherence tomography (OCT) was done to Right coronary artery (RCA) after crossing the lesion showed proximal to distal diffuse fibroatheromatic plaques with areas of thrombotic burden in mid to distal areas with minimum lumen area being 1.7mm^2. After appropriate pre-dilatation, 2.75 x 40mm distally bioresorbable vascular scaffold (BVS) was overlapped with 3. 25 x 29mm BVS. After adequate post dilatation, optical coherence tomography (OCT) showed minimal stent area (MSA) increased to 6.92mm2 with no dissection, and tissue prolapse with good lumen area in the overlapped segment. BVS is an invaluable option in leaving nothing behind the strategy.

Keywords: Subtotal Occlusion, Bioresorbable vascular Scaffold, Optical coherence tomography

CASE SUMMARY-CASE 25

Oct Guided LMCA Bifurcation Stenting with Cullotte Technique

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43-year-old male chronic smoker nondiabetic, nonhypertensive presented with typical angina with a history of angioplasty to left anterior descending artery (LAD) in 2017 and angioplasty left main to left circumflex (LCX) in 2023. He was on dual antiplatelet therapy with aspirin and ticagrelor. Echocardiography revealed wall motion abnormality in the LAD territory with an ejection fraction of 40%. Coronary angiography revealed ostial LAD 90 % lesion, right coronary 80% lesion, Stent in left main to LCX had mild in-stent restenosis. He was advised to have bypass surgery but he refused. So, he underwent optical coherence tomography (OCT) guided left main bifurcation stenting with the Culotte technique as LAD and LCX were of similar size. OCT helped

in determining the apt landing zone for the stent and aided in recrossing the distal strut of the deployed Stent. The final minimal stent area (MSA) achieved in the left main was 8.87 mm^2, LAD 9.12 mm2, LCX 8.07 mm^2 which were satisfactory with good Stent apposition. The final OCT run showed proximal Stent deformation which was corrected with adequate post dilatation. OCT helped us in strategizing, and optimizing MSA for a good outcome.

Keywords: Cullotte Technique, Optical coherence tomography, Bifurcation Stenting

CASE SUMMARY-CASE 26

Vascular Access Challenges - A Case Report

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Vascular access in cases of peripheral arterial diseases poses a great challenge to the interventional cardiologist for performing coronary angioplasty.We present one such case because of its rarity and interesting features. A 57 old male smoker admitted with anginal type of chest pain. He was diagnosed to have inferior MI (IWMI) thrombolysed outside 15 days ago. He is a known case of Type B Standford Aortic dissection with systemic hypertension (SHT) and chronic kidney disease (CKD) stage II (eGFR =60 ml). His vitals were stable (pulse rate 80/m,BP 160/80 mmhg). Electrocardiography (ECG) showed sinus rhythm, left anterior fascicular block (LAFB). Echo showed regional wall motion abnormalities (RWMA) in right coronary artery/ left circumflex (RCA/ LCX) territory with EF-57%. Blood investigations showed Hepatitis B surface antigen (HBS AG) + and his creatinine was 1.5 mg %. Chest X ray showed enlarged superior mediastinum with calcification in aortic knuckle. Magnetic resonance (MR) angiogram showed aortic dissection in descending thoracic aorta with left subclavian artery involvement at the level of its origin. We subjected him for coronary angiogram (CAG) through right radial artery access using 5F TIG diagnostic catheter which showed right coronary artery (RCA) lesion. We proceeded for PTCA to RCA through Right Radial artery access which was not successful inspite of adequate vasodilators and balloon assisted technique. We identified a significant lesion in the Radial artery at the level of Elbow which prevented even 5F JR guiding catheter. Hence we proceeded with the Right Brachial artery approach beyond the elbow. Percutaneous transluminal coronary angioplasty (PTCA) was done as usual and stenting was done. On the first postoperative day the patient developed numbness and weakness of right fingers which was managed with steroids after getting a neurologist opinion. Neurologists opined that it was Iatrogenic -Neuropraxia. Patient also developed ecchymosis of the right elbow and was diagnosed as pseudoaneurysm at the puncture site. It was managed by ultrasound (USG) PROBE guidance compression for three days but it was not successful. Vascular surgeons advised for pseudo aneurysm excision. So the sac was removed and sutured. Patient was discharged in good condition with good radial and ulnar pulsations. We learnt to overcome all the complications of single available vascular access like hematoma, Neuropraxi and pseudoaneurysm. In this interventional era, we need to know about all access and complications pertaining to them and to manage them effectively with a good team approach.

Keywords: Vascular Access, Subclavian Artery, Radial Artery