**Surgery – Cadiovascular System**

1. Julie, a 28-year-old ESRD patient was seen by Dr. Jeri in an outpatient hospital facility for treatment of an obstructed hemodialysis AV graft. Dr. Jeri provided moderate conscious sedation to Julie for percutaneous transluminal balloon angioplasty of the venous portion of the graft. This procedure lasted 45 minutes. Julie had an excellent result and was released to home after recovery from the treatment. Dr. Jeri performed the professional radiological supervision and interpretation with this procedure.
2. Marvin, a 51-year-old patient, required a conversion of a single-chamber pacemaker system to a dual-chamber system. The previously placed electrode was removed transvenously. The skin pocket was opened and the pulse generator removed. The skin pocket was then relocated and a dual system was placed with transvenous electrodes in both the right atrial and ventricular chambers. The system was tested and the new skin pocket was then closed. The patient tolerated the procedure well.
3. Dr. Sacra performed a CABG surgery on Fred five months ago. Today, Dr. Sacra completed another coronary artery bypass using three venous grafts with harvesting of a femoropopliteal vein segment. How would Dr. Sacra report her work for the current surgery?
4. Mrs. Reyes had a temporary ventricular pacemaker placed at the start of a procedure. This temporary system was used as support during the procedure only. How would you report the temporary system?
5. Mr. Azeri, a 68-year-old patient, has a dual-chamber pacemaker. The leads in this system were recalled. The leads were extracted via transvenous technique, the generator was left in place, and new leads were inserted via transvenous technique.
6. A 35-year-old female patient with a venous catheter requires a blood sample for hematology testing. The sample is collected via her PICC catheter.
7. A patient underwent a secondary percutaneous transluminal thrombectomy for retrieval of a short segment of embolus evident during another percutaneous intervention procedure. How would you report this secondary procedure?
8. The patient is a 67 -year-old gentleman with metastatic colon cancer recently operated on for a brain metastasis, now for placement of an Infuse-A-Port for continued chemotherapy. The left subclavian vein was located with a needle and a guide wire placed. This was confirmed to be in the proper position fluoroscopically. A transverse incision was made just inferior to this and a subcutaneous pocket created just inferior to this. After tunneling, the introducer was placed over the guide wire and the power port line was placed with the introducer and the introducer was peeled away. The tip was placed in the appropriate position under fluoroscopic guidance and the catheter trimmed to the appropriate length and secured to the power port device. The locking mechanism was fully engaged. The port was placed in the subcutaneous pocket and everything sat very nicely fluoroscopically. It was secured to the underlying soft tissue with 2-0 silk stitch.
9. The patient is a 59-year-old white male who underwent carotid endarterectomy for symptomatic left carotid stenosis a year ago. A carotid CT angiogram showed a recurrent 90% left internal carotid artery stenosis extending into the common carotid artery. He is taken to the operating room for re-do left carotid endarterectomy. The left neck was prepped and the previous incision was carefully reopened. Using sharp dissection, the common carotid artery and its branches were dissected free. The patient was systematically heparinized and after a few minutes clamps applied to the common carotid artery and its branches. A longitudinal arteriotomy was carried out with findings of extensive layering of intimal hyperplasia with no evidence of recurrent atherosclerosis. A silastic balloon-tip shunt was inserted first proximally and then distally, with restoration of flow. Several layers of intima were removed and the endarterectomized surfaces irrigated with heparinized saline. An oval Dacron patch was then sewn into place with running 6-0 Prolene.
10. A catheter is placed in the left common femoral artery in retrograde fashion which was directed into the right iliac system advancing it to the external iliac. Dye was injected and a select right lower extremity angiogram was performed which revealed patency of the common femoral and profunda femoris. The catheter was then manipulated into the femoral artery in which a select lower extremity angiogram was performed which revealed occlusion from the popliteal to the peroneal artery.
11. 79-year-old male with symptomatic bradycardia and syncope is taken to the Operating Suite where an insertion of a DDD pacemaker will be performed. A left subclavian venipuncture was carried out. A guide wire was passed through the needle, and the needle was withdrawn. A second subclavian venipuncture was performed, a second guide wire was passed and the second needle was withdrawn. An oblique incision in the deltopectoral area incorporating the wire exit sites. A subcutaneous pocket was created with the c autery on the pectoralis fascia. An introducer dilator was passed over the first wire and the wire and dilator were withdrawn. A ventricular lead was passed through the introducer, and the introducer was broken away in the routine fashion. A second introducer dilator was passed over the second guide wire and the wire and dilator were withdrawn. An atrial lead was passed through the introducer and the introducer was broken away in the routine fashion. Each of the leads were sutured down to the chest wall with two 2-0 silk sutures each, connected the leads to the generator, curled the leads, and the generator was placed in the pocket. We assured hemostasis. We assured good position with the fluoroscopy.
12. PREOPERATIVE DIAGNOSIS: Left breast carcinoma. POSTOPERATIVE DIAGNOSIS: Left breast carcinoma. NAME OF PROCEDURE: Left lumpectomy and sentinel node biopsy. DESCRIPTION OF PROCEDURE: The patient is a 65-year female admitted with a diagnosis of left breast carcinoma. Risks and benefits of the procedure had been discussed preoperatively including risks of bleeding, infection, deformity in the breast, chronic pain, numbness, chronic lymph edema associated with the lymph node biopsy as well as other possible complications. The patient agreed to proceed. Because the wire was located in the upper outer quadrant of the breast over the lesion and the length of the wire was 10 cm, it was felt that it would be best to approach the node biopsy as well as the lumpectomy through the same incision in the upper outer quadrant of the left breast. Incision was made with a 15-blade through skin and subcutaneous. Homeostasis achieved with Bovie electrocautery. Flaps were formed in the usual manner. A wire was brought out through the incision. We then circumferentially removed all the tissue around the wire down to the tip. We marked the specimen with a long lateral stitch, short superior stitch, 2 lateral clips, and 1 superior clip. We were able to identify a hot node in the axilla and at least 2 lymph nodes that were blue-dyed within the sentinel nodes. We did perform lymphoscintigraphy and injected 2 cc of methylene blue dye in the periareolar area preoperatively and massaged the breast for 5 minutes. The lymph nodes were excised and a biopsy was performed on the axillary node. At this point, we copiously irrigated the area to assure good homeostasis. We placed clips throughout the entire cavity. We then closed the deep dermal tissue with interrupted 3-0 Vicryl sutures and then closed the skin with a fine 5-0 nylon. The patient tolerated the procedure well. Sponge count was correct. Blood loss was minimal. The patient was sent to the recovery room in stable condition.
13. This 67 year-old man presented with a history of progressive shortness of breath, mostly related to exercise. He has had a diagnosis of a secundum atrioseptal defect for several years, and has had atrial fibrillation intermittently over this period of time. He was in atrial fibrillation when he came to the operating room, and with the patient cannulated and on bypass, The right atrium was then opened. A large 3 x 5 cm defect was noted at fossa ovalis, and this also included a second hole in the same general area. Both of these holes were closed with a single pericardial patch.
14. The femoral artery is punctured with a needle and a catheter is threaded over a guidewire which is fed through the artery into the aorta and selectively placed into the right and the left common carotid. An angiogram was performed bilaterally showing minimal tumor blush but no other pathology identified.
15. The patient is a 51 year old gentleman who has end-stage renal disease. He was in the OR yesterday for a revision of his AV graft. The next day the patient had complications of the graft failing. The patient was back to the operating room where an open thrombectomy was performed on both sides getting good back bleeding, good inflow. An arteriogram was shot. There was a small amount of what looked like pseudo-intima in the distal anastomosis of the venous tract that was causing a flow defect which was taken out with a Fogarty catheter. A Conquest balloon was ballooned up again with a 6 millimeter and a 7 millimeter. An arteriogram was reshot in both directions. The arterial anastomosis looked fine as did the venous anastomosis.
16. The patient is a 77 year-old white female who has been having right temporal pain and headaches with some visual changes and has a sed rate of 51. She is scheduled for a temporal artery biopsy to rule out temporal arteritis. A Doppler probe was used to isolate the temporal artery and using a marking pen the path of the artery was drawn. Lidocaine 1% was used to infiltrate the skin, and using a 15 blade scalpel the skin was opened in the preauricular area and dissected down to the subcutaneous tissue where the temporal artery was identified in its bed. It was a medium size artery and we dissected it out for a length of approximately 4 cm with some branches. The ends were ligated with 4-0 Vicryl, and the artery was removed from its bed and sent to Pathology as specimen.
17. 50-year-old female has recurrent lymphoma in the axilla. Ultrasound was used to localize the lymph node in question for needle guidance. An 11 blade scalpel was used to perform a small dermatotomy. An 18 x 10 cm Biopence needle was advanced through the dermatotomy to the periphery of the lymph node. A total of 4 biopsy specimens were obtained. Two specimens were placed an RPMI and 2 were placed in formalin and sent to laboratory.
18. Procedure: Dual chamber pacemaker defibrillator implantation. Indications: A 67-year-old white gentleman who has significant underlying ischemic cardiomyopathy with EF of 25 percent, prior infarcts, remote history of syncope and at high risk for malignant ventricular arrhythmias. He has had a recent T wave alternans test which was clearly abnormal. He has had episodes of resting bradycardia also noted. He also meets Madit II criteria for ICD implantation. Description of Procedure: After informed consent had been obtained, the patient was brought to the outpatient hospital lab in the fasting state. The left anterior chest was prepped and draped in a sterile fashion. Intravenous sedation and local anesthetic were given. After local anesthetic, a 5 cm incision was made at the left deltopectoral groove. With blunt dissection and cautery, this was carried down through the prepectoralis fascia. The cephalic vein was identified and ligated distally. Through the venotomy, a subclavian venogram was performed to provide a roadmap. The atrial and ventricular leads were then advanced into the vessel to the level of the right atrium under fluoroscopic guidance. The ventricular lead was maneuvered to the right ventricular outflow tract and then through the RV apex where it was actively fixed. Good sensing and pacing thresholds were demonstrated. The lead was anchored to the pre-pectoralis fascia with interrupted 2-0 Tycron sutures. 10 volt pacing did not result in diaphragmatic capture. The atrial lead was maneuvered to the anterolateral right atrial wall where it was actively fixed. Good sensing and pacing thresholds were demonstrated. The lead was anchored to the pre-pectoralis fascia with interrupted 2-0 Tycron sutures. 10 volt pacing did not result in diaphragmatic capture. A subcutaneous pocket was created with good hemostasis achieved. The pocket was subsequently irrigated with solution of Bacitracin. The generator was connected to the lead and then placed in the pocket with no tension on the lead. The deep fascial layer was closed with interrupted 2-0 Vicryl suture. The subcutaneous closure was made with running 3-0 Vicryl suture. Subcuticular closure was made with running 4-0 Vicryl suture. Steri-strips were applied. Ventricular fibrillation was induced with a T wave shock. This was successfully sensed and terminated with a 15 joule shock to sinus rhythm. High voltage impedence was 39 ohms. Dry dressing was placed over the wound. The patient returned to the floor in stable condition without apparent complications.
19. At the patient’s bedside in the hospital, a PICC line is inserted. Using Xylocaine local anesthesia, aseptic technique and ultrasound guidance, a 21 gauge needle was used to aspirate the right cephalic vein of a 72-year-old patient. When blood was obtained, a 0.018 inch platinum tip guidewire was advanced to the central venous circulation. A 6 French dual lumen PICC was introduced through a 6 French peel-away sheath to the SVA RA junction and after removal of the sheath, the catheter was attached to the skin with a STAT-LOCK device and flushed with 500 units of Heparin in each lumen. A sterile dressing was applied and the patient was discharged in improved condition.
20. A 62-year old female with three-vessel disease and supraventricular tachycardia, which has been refractory to other management. She previously had pacemaker placement and stenting of the coronary artery stenosis, which has failed to solve the problem. She will undergo CABG with autologous saphenous vein and a modified MAZE procedure to treat the tachycardia. The risks and benefits have been discussed and the patient wishes to proceed. She is brought to the cardiac OR and placed supine on the OR table. She is prepped and draped and adequate endotracheal anesthesia is assured. A median sternotomy incision is made and cardiopulmonary bypass is initiated. The endoscope is used to harvest an adequate length of saphenous vein from her left leg. This is uneventful and bleeding is easily controlled. The vein graft is prepared and cut to the appropriate lengths for anatomosis. Three bypasses are performed, one to the LAD, one to the circumflex and another distally on the circumflex. A modified maze procedure was then performed and the patient was weaned from bypass. Once the heart was once again beating on its own again, we attempted to induce an arrhythmia and this could not be done. At this point, the sternum was closed with wires and the skin reapproximated with staples. The patient tolerated the procedure without difficulty and was taken to the PACU.