SHARP CHARLES A P24752

PREOPERATIVE DIAGNOSES:

1. EXTENSIVE DEGENERATION AT MULTIPLE LEVELS PREDOMINANTLY AT L5-S1 WITH SEVERE OSTEOPHYTOSIS WITH ALMOST BONE-ON-BONE APPEARANCE WITH SEVERE LATERAL RECESS STENOSIS RIGHT MORE THAN LEFT.
2. LATERAL RECESS STENOSIS AT L4-L5.
3. L4-L5 RADICULOPATHY BILATERALLY.

POSTOPERATIVE DIAGNOSES:

1. EXTENSIVE DEGENERATION AT MULTIPLE LEVELS PREDOMINANTLY AT L5-S1 WITH SEVERE OSTEOPHYTOSIS WITH ALMOST BONE-ON-BONE APPEARANCE WITH SEVERE LATERAL RECESS STENOSIS RIGHT MORE THAN LEFT.
2. LATERAL RECESS STENOSIS AT L4-L5.
3. L4-L5 RADICULOPATHY BILATERALLY.

PROCEDURES:

1. Transforaminal lumbar interbody fusion L5-S1.
2. Use of interspinous stabilization with decompression at L4-5.
3. Use of allograft.
4. Use of microscope.
5. Trans-segmental instrumentation L4-5.
6. Use of interspinous stabilizer at L4-5.
7. Hemilaminotomy at L5-S1 and L4-5 bilaterally.

SURGEON: Dr. Amit Bhandarkar, MD.

ASSISTANT: None

IMPLANTS USED: Varlock cages

BLOOD LOSS: 300 cc

COMPLICATIONS: None

PREOPERATIVE AREA: The patient was seen and evaluated in the preoperative area. I discussed with the patient the objective of the procedure being decompression, stabilization, and long term of the fusion. I explained to him that we were going to do a fusion at the lower segment by doing a transforaminal lumbar interbody fusion and we are going to a COFLEX at the upper level. The patient had predominantly right-sided leg pain and right-side back pain. I explained to him the expectations to have from the surgery because he had multiple levels of involvements. Again, we are operating only on two levels and there is a significant chance of having residual pain, different kind of pain at the upper levels. We also discussed in detail about the postoperative pain management considering the patient was on high dose of pain medication which was Oxycodone 15 mg that he is taking around every four to six hours daily. I also explained to him the possibility of changing him to a different medication postoperatively. We discussed the risk involved with the surgery being infection, clot formation, spinal fluid leak, malformation, and DVT. The patient also has significant comorbidities in the form of atrial fibrillation and problems with COPD. He is currently a smoker and has been counseled to completely stop smoking now.

DESCRIPTION OF PROCEDURE: After having consultation in details about the procedure, the patient was then taken into the operating room where the patient was identified by the head nurse and the anesthetist. All the IV lines were hooked up by the anesthetist and administered general anesthesia. All of the neuro monitoring lines were hooked up. At this time, we went ahead and put his relevant studies on display. We then positioned the patient prone on a radiolucent Jackson table. All of the body prominences were well padded. We obtained our baseline. His lumbar spine was prepped and draped in the usual sterile fashion. At this point, time out was performed. We confirmed the patient's identity and diagnosis. His allergies were also confirmed. The plan for the procedure was also explained to everyone in the OR in detail.

A midline incision was made. The skin and subcutaneous tissue was then fully dissection using knife and then Bovie was used to go further deep to the subcutaneous fat layer. Hemostasis was achieved with Saline adrenaline solution. Once we reached the lumbar fascia we positioned several retractors and then used cautery, suction, and cobbs to perform periosteal dissection of the back strap muscles at L4-5 and L5-S1. I also partially exposed L3 lamina as well. I was also able to achieve hemostasis. The vascular pedicle of the multifidus at L4 and L5 was nicely preserved and also the capsule joint at L4-5 was nicely preserved bilaterally. The pars of L4 and the pars of L5 were nicely visualized. After visualizing the anatomy for screw insertion - screw entry at L4, L5, and S1 level was decided. I was able to nicely navigate the C-arm to have appropriate entry point. I then inserted screws at L5 and S1. All the screws were checked with neuro monitoring. All fared well. All screws also fared well when checked on C-arm. After that we went ahead and diverted our attention towards the facetectomy on the right side. The patient had osteophytosis even causing some extraforaminal compression of the nerve root coming out of L5 because of the huge osteophytosis the patient had at L5 and S1. I then went ahead and used the osteotome to remove the inferior facet of L5. I was able to expose superior facet of S1 which was then slowly burred down and using kerrison rongeur I was able to completely remove the facet joint on the right side of L5-S1. I then used a curette to undermine the inferior lamina. It was also burred and thinned out and I was able to pass the curette below ligamentum of flavum and tease it slowly out with the help of kerrison, a disc rongeur, pencils and curettes. I was able to completely remove the ligamentum of flavum in that area to expose the nerve root which was traversing nerve. I was not able see the exiting nerve root of L5. I did go ahead and remove the osteophytes at the lateral aspect of the facet joint bed so as to make more room for the exiting nerve root of L5. Once I was able to visualize the nerve root, I used a bipolar to slowly cauterize the epidural bleeders. The nerve root was retracted medially and then I was able to go ahead and use blunt dilators so as to jack the disc space open. It was almost bone-on-bone appearance, very uneven surface. I was able to use a small curette to scrape the endplate out and then I used the shaver and dilator to slowly jack the disc space open a little bit. I also used the distraction on the opposite side using a rod .so that I can increase the foraminal site at bilateral exiting areas at L5 and S1. Once the distraction was put in I was able to identify the disc space nicely retracting the nerve roots medially. I then went ahead and incised the disc space and went ahead and further worked on the disc space more medially and I was again able to remove the remaining the disc in there to bleeding bone. After that, I used different sizers to size my graft. The patient's space was very tight but at the same time the patient opened up pretty good so I decided to use an expandable cage at that location. I then went ahead and used a funnel to put 5 cc of bone graft into the disc space which was a mix of corticocancellous bone graft, demineralized bone matrix and autograft that has been obtained for the facetectomy. Once that was put inside then I was able to put a graft which was 9 mm . I was able to expand it to give him lordosis of around 9 degrees at that location and the location of the graft was very snugly fitting at that point of time and we observed the position the graft. It was nicely placed in the midline and it was also nicely giving a little bit of lordosis at the affected level it definitely jacked up the disc height from initial of 2 mm to around 8 mm posteriorly. At this point of time I went ahead and compressed the rod which was already put in and then I tightened the screws on the rod.

I then went ahead and diverted my attention to the L4-5 area where I went ahead and removed the ligamentum of flavum in the interspinous area. I also used a burr to do a foraminotomy bilaterally. I was then able to tease out the ligamentum of flavum and decompress the L4-5 area nicely. I identified the disc. The disc was very hard and I decided against doing any discectomy I was able to mobilize the nerve roots. Decompression was done after doing the bony work and the ligamentum of flavum excision. I was able to maintain and preserve the pars of both L4 and L5. At this point of time, I went ahead and sculpted the spinous process for receiving COFLEX. I sized for the COFLEX. I found that the 12 mm size gave a nice distraction . At this point I inserted a 12 mm COFLEX device at that location after opening the wings I put three teeth down. When the COFLEX was nicely and snugly sitting, the graft density of the spinous processes were nice and strong. I was able to hammer the COFLEX in. I checked with a clamp that they were snugly fitting. They looked pretty good with regards to depth and position. We positioned it 2 mm dorsal to the dura. I then crimped the COFLEX back and it was again nice and snugly sitting. The nerve roots were nicely checked at both sides. I was able to pass the ball tips through along the course of nerve root without causing undue jumping or undue stimulation of the nerve roots. The patient had no changes in neuro monitoring throughout the procedure . The patient really fared well with neuro monitoring. We had less of blood loss and no complications. At this point in time I gave thorough irrigation and secured all the bleeding points with bipolar and Aqua- Mantys. I was then able to place gelfoam over the dura and then I put bone graft on facet joints onto the left side and also the transverse process of the sacral ala onto the left side. I packed that area with bone grafts after making the surface raw using a burr. After that I made sure all the screws were tight one more time and I took x-rays to make sure everything looks okay.

At this point in time we decided to go ahead with the closure. We did put a drain. We also used 500 mg of Vancomycin to lie onto the muscles and the subcutaneous tissue. I then started suturing the wound with #1 Vicryl. I closed the fascia in two layers. Then I closed the subcutaneous tissue with 2-0 Vicryl and then I was able to close the skin with subcuticular stitches. After that, I was able to dress the wound with sterile dressing with Dermabond and Prineo dressing and 4 x 4s and Telfa. Tegaderm dressing was then applied. The patient was then turned supine and then extubated and was taken to the recovery area where he was monitored for one hour. The patient's pain was controlled with Fentanyl. The patient tolerated the procedure very well. He was neuro intact in the postoperative area. He was moving all his four limbs. We then move the patient to surgical care unit where he was further observed for postoperative recovery.