**ACDF 3 levels**

OPERATIVE PROCEDURE

Anterior Cervical Decompression and Fusion.

Preoperative Diagnoses: Cervical spondylosis with bilateral C4-C5-C6-7 radiculopathy, axial neck pain, cervical canal stenosis

Postoperative Diagnoses: Cervical spondylosis with bilateral C4-C5 C6-C7 radiculopathy, axial neck pain; and cervical canal stenosis

Surgeon: Amit Bhandarkar, M.D.

Assistant: None

Complications: None

Specimen: None

Blood Loss: 100

Implants: Plate and screws and Nuvasive

PROCEDURES:

1. Anterior cervical discectomy with decompression.

2. Anterior Cervical fusion C4-5, C5-6 , C6-7

3. Placement of Biomechanical Device C4-5, C5-6 , C6-7

4. Use of bone allograft

5. Anterior cervical instrumentation, C 4-7

6. Use of C arm imagery, AP and Lateral cervical spine images- for proper positioning of implants

7. Use of operative microscope for assistance in dissection and decompression.

Preoperative areaï¿½in the preoperative area all the risks involved in the procedure and possible outcomes and possible complications and alternative approaches were discussed in details. We also discussed the need for stopping smoking. We also discussed the course of postoperative recovery. Patient verbalized agreement with the present plan and gives full informed written consent understanding the risks and benefits of the surgery.

Patient was brought to the operating room was identified by the anesthetist and the chief nurse. IV access lines were established anesthesia was then administered. Arterial lines were secured SCDs were placed. Foley's catheter was then placed. Patient was then positioned supine. All bony prominences were padded. Monitoring baseline was then carried out all looked okay. Patient was then prepped and draped in routine fashion. ChloraPrep was used for the L5 Prepping. He was draped free exposing her cervical spine on the anterior side.

A formal timeout was then carried out and everything including but not limited to his name, type of surgery, duration of surgery site and side was confirmed for midline incision. Using C- arm appropriate incision site was marked on the skin.

We used an anterolateral approach to the cervical spine through a transverse incision. We approached the patient from the left side. Sharp dissection through skin subcutaneous down to the platysma. Using Monopolar for hemostasis, I bluntly dissected under the platysma, over the sternocleidomastoid north and south freeing up the soft tissue plane and then bluntly dissected medial to the sternocleidomastoid and the carotid sheath down to the prevertebral fascia. I used kittners to bluntly dissect the prevertebral fascia away from the disc, and Then I placed a Caspar pin at C5, confirming this on lateral C-arm image. I then placed and additional pin at C6. I then took the bipolar along the medial aspect of the longus colli bilaterally bluntly reflected this and we were able to place our retractors in to the position.

Once the retractors were placed I then incised the disc anteriorly and removed disc material going out all the way to the posterior aspect of the disc doing a through decompression. The endplate was scraped to bleeding bone using curettes. The Microscope was then brought in the field for appropriate visualization with illumination. The uncinate process and disc osteophyte complex was slowly thinned out using 3 mm diamond burr and was then removed using a 1 mm 45 angled kerrision roungers. A small blunt hook was used to confirm the adequacy of the decompression. The PLL Was slowly scarped out of the disc material and was thin and floating. There were no signs of extrusion of any disc material posteriorly and hence PLL was not removed.

Once that was complete I then took a cage of appropriate size and did some trials, and the packed a cage with bone graft material-consisting of DBM and local bone graft harvested from the osteophyte and impacted that into position at C5-6.

The C5 Caspar pin was then moved to C7 and similar decompression procedure and cage placement after bed preparation was carried out at C6-7 level after confirming adequate decompression. Both pins were then removed and then attention was diverted to C4-5 level which was also adequately decompressed using the similar steps. We ensured complete adequate decompression from uncinate to uncinate and anterior foraminotomies and were also done at all 3 levels.

The patientï¿½s EMG motors and sensory never changed from baseline throughout out the procedure.

Once completed, I them trimmed the anterior osteophyte to create a nice space for the plate. I used a plate of appropriate size and screw, which were put into position. The length and positon of the screws were ascertained using a C arm. All screws were in good position and were wrist tight. The screws were then locked in position. The cervical spine wound was then thoroughly irrigated with a mix of normal saline and bacitracin. Adequate hemostasis was then achieved and all the bleeding points were secured. We used a appropriate bone wax to cover the pin holes and pins were removed. There was not seemed active bleeding but considering it was at the level case we felt to put in a drain. A JP drain was then inserted and brought out through a small stab incision. The wound was then closed in layers the platysma was closed with 2-0 Vicryl. Subcutaneous tissue was then closed with 3-0 Vicryl and subcuticular stitches were then taken with 5-0 Vicryl.

Patient was then extubated in the OR he was stable throughout the procedure. He was then transferred to recovery for further pain control and stabilization. Cervical collar was applied. His vitals were stable in the recovery and his pain was controlled with morphine and fentanyl. He was then further transferred to the SCU. He tolerated the procedure really well. He was neurologically same as before and had tolerable amount of pain.

X-ray

AP and lateral cervical spine images demonstrated good position of the plate anteriorly in the coronal plane and also good position into the sagittal plane. There was good disc height restoration, minimal facet distraction at the level. It appeared to be in good positon with good cervical lordosis.