OPERATIVE PROCEDURE

PREOPERATIVE DIAGNOSIS: L5 S1 Right -sided extruded disc with Right sided L5 and S1 radiculopathy. Patient have failed conservative management.

POSTOPERATIVE DIAGNOSIS: L5 S1 Right -sided extruded disc with Right sided L5 and S1 radiculopathy. Patient have failed conservative management.

SURGEON: Dr. Amit Bhandarkar.

ASSISTANT: None

BLOOD LOSS: 100cc.

COMPLICATIONS: None.

IMPLANT: None.

PROCEDURES PERFORMED:

1. Hemilaminotomy, foraminotomy L5- S1

2. Decompression of S1 nerve root

3. Retrieval of extruded disc fragment which was fibrosed

4. Use of microscope for better visualization.

5. Use of C-arm for better positioning the tubular retractor.

6. Use of minimally invasive tubular retractor and dilatation technique for discectomy.

7. Failed attempt to retrieve that extruded disc fragment by endoscope.

PREOPERATIVE AREA: In the preoperative area, the nature of the procedure, the approach

to the disc, possible outcomes, and recovery course was discussed in details with the patient.

The patient was also told about the possible complications including infection, blood clot

formation, permanent or temporary nerve root damage, spinal fluid leak, and other related

complications. The patient completely understands the risks of the procedure and consented for

it. The patient's back was then marked and the site was then marked.

The patient was then taken to operation room, where she was identified by the head nurse and

also by the anesthetist. After that, anesthesia was administered for general anesthesia. All the

neuro monitoring lines were then plugged in. She was also catheterized.

Her baseline was also carried out. She was then positioned prone on the Jackson table and all

her bony prominences were padded. She was then prepped and draped in the lumbar area in the

usual sterile fashion. ChloraPrep was used for prepping the wound. She was draped free in the

lumbar area.

C-arm was then asked for and we localized her right side L5- S1 disc. We initially decided to go with endoscopic approach. Everything was set for interlaminar endoscopy. An 8-mm incision was taken just lateral to the spinous process of her localizing the interlaminar window at L5-S1. A small stab incision was then taken in the fascia. The dilator was introduced to position was confirmed within the interlaminar window. The cannula was then passed over the dilators and which was 8 mm in diameter. The portal of the cannula was facing medially. The assembled endoscope was then passed in a under constant irrigation and suction. A 60 mm of irrigation pressure was maintained with the arthroscopic pump. We were able to see the muscle fibers which were then ablated using RFA probe. We're then able to clearly see the ligamentum flavum which was made free of all the muscle fibers and hemostasis was achieved. We then used annulus cutter to slowly punch holes in the ligament of flavum. The hole was then gradually increased using Kerrison punches through the endoscope. The cannula was then advanced underneath the ligamentum flavum. We were able to identify the S1 nerve root and the dura. We encountered lots of torrential bleeding at that point. We tried to secure the bleeders using RFA probe. But the fragment was too vascular. It limited over further visualization. At that point we decided to open to retrieve that vascular fragment. Then the scope was then removed and preparation was made for open tubular discectomy.

The same incision was extended to make it around 20 mm. The

incision was then carried out to the fascia. Blunt dissection of the back was taken out. She was

very deep. The fascia was then incised and a Cobb was then used to bluntly dissect the

multifidus layers off the L5 lamina. After that, a blunt dilator was then introduced and was

positioned in the inferior aspect of the lamina of L5. It was sequentially dilated with increasing

size of dilators until we reached 18 mm tube was then inserted over the dilators and its position

was then checked with C-arm. It was appropriately positioned at L5-S1 disc space.

After checking its position, it was then anchored to the table and made immobile. The tubes

were then removed and we had a view of the lamina of L5 with minimal muscle over it, which

was dissected using bipolar. Nice hemostasis was achieved and now we had a view of the L5

lamina also L5 S1 interlaminar space, ligamentum flavum, and the L5-S1 medial part of the facet.

The depth of the tube was 90 mm. After that, burr was used to burr down the

inferior edge of L5 lamina all the way to the midline and hemi facetectomy was then performed

by undercutting the facet using the burr at l5-S1. After complete bony work, bone wax was used to ascertain hemostasis. Attention was diverted

to the ligamentum flavum. Sufficient pars were preserved so as not to cause any postoperative

instability and sufficient facets were also preserved. We could identify at this juncture the defect from the previous endoscopic procedure. We then gradually enlarged it with a Kerrison punches. After that, ligamentum flavum was slowly

teased out from its attachment to the inferior part of the lamina of L5 using a Woodson and

curettes. We could see the dura completely. The ligamentum flavum was then slowly excised in bits and pieces.

After excision of ligamentum flavum on the left side, we could identify the S1 nerve root,

which was thick and swollen and it was adhered to the underlying disc tissue and was covered

with thin membrane. It was very difficult to mobilize that nerve root medially because it was

under a lot of pressure. We had to expose a little bit lateral side and underneath facet to have

access to the nerve on the lateral side.

After that, the nerve root was slowly teased off from the underlying discal tissues. There was also lots of bleeding coming out from the discal area because she had ruptured disc which was getting vascularized. The disc also seemed to be inferiorly and migrated and engulfed in with lots of vascular tissue,

which we slowly cauterized using bipolar. We were also able to dissect a plane between the S1

nerve root and the disc and slowly teased out the bulging disc from underneath the S1 nerve

root.

After removing substantial amount of disc from underneath the S1 nerve root, there was good

mobility at the S1 nerve root. We also pulled out the disc which was extruded into the foramen.

The L5-S1 foramen was then completely made free from all directions and was ascertained

that S1 has free mobility. The foramen was also probed with a foraminal probe and we were

able to pass that without any jumping or any problems at all. So, and then, we did hemostasis of

all the disc fragments and the disc bed area, which was very vascular, using a bipolar cautery and SURGIFLO.

We irrigated the wound then with Bacitracin mixed normal saline. After thorough irrigation and

after achieving hemostasis, we pulled out the tubular retractor. The fascia was closed with 1-0 Vicryl and with Steri-Strips.

After closure of the fascia, we then could close the subcutaneous tissue and surrounding

fat with 2-0 Vicryl and then subcuticular suture, dressing was then applied and

Dermabond was applied over it and everything was secured with another sterile dressing in the

form of 4 x 4 and secure tape. There were no drains put in. The local area was also infiltrated

with a mixture of Depo-Medrol, Marcaine and Toradol for postoperative pain relief.

After the procedure, the patient was then turned supine and was extubated. She never had any

problems with neuro monitoring. We had good baseline in surgery and was at baseline and we

maintained those sensory and motor baseline throughout the procedure.

After the procedure, she was extubated and then was transferred to PACU. In PACU, her pain

was controlled with Fentanyl. She had a tolerable amount of pain and she was moving all

extremities down and she said that she had obtained pain relief. She tolerated the procedure very well.