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Neurosurgical Review of 105 Cases

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Abstract: *This study comprised of 105 cases of neurosurgery which includes neurosurgery of every part of brain and spine which are as follows:*

Type of cases	**Number of cases**
Anterior cervical fixation	20
Posterior cervical fixation	7
Cranio-vertebral junction mass and fixation	1
Both anterior and posterior cervical fixation	2
Dorsal spinal tumour	6
Dorsal spinal pott's/canal stenosis	3
Lumbar canal stenosis/fracture	5
Sellar/clival mass	6
Codman hakim shunt	1
Endoscopic third ventriculostomy	3
Aneurysm	3
Subdural/extradural/parenchymal hematoma	17
Gun shot head	4
Depressed skull fracture/csf leak	2
Intracranial tumour/mass	16
Intracranial meningioma	6
Spinal dysraphism	1
Trigeminal neuralgia	2
Total	**105 cases (included in study)**

Method:*Data was collected from admission records and ct/mri department of neurosurgery, delhi,from 2017 to february 2019of a private hospital of Delhi .i retrospectively reviewed the records of these patientsto analyzethe clinical outome of neurosurgical patients.*

Results:

1. *Total number of cases were 105, out of which complication occurred in 8 patients and death occurred in 4 patients.*
2. *Total number of patients who developed complication (but well controlled during surgery) were 8 (7.6%).*
3. *Total number of patients in which death occurred were 4 (3.8%).*

Conclusion:

1. *Total number of 105 cases are included in this study.*
2. *Total number of complications were seen in 8 patients, out of total 105 cases, which amounts to approximately 7.6%.*
3. *Total number of death (mortality) were seen in 4 patients, out of total 105 cases, which amounts to approximately 3.8%.*
4. *Neurosurgery is 96.2% successful in this series.*

Keyword:

1. *CT- Computed Tomography*
2. *MRI- Magnetic Resonance Imaging*

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I. Background

In neurosurgical practice of a private hospital and during the course of 2 years from january 2017 to february 2019, i have gone through operating 105 cases of all extremes of brain and spine including each and every part of brain and spine with extremes of complicated cases.

This publications includes every type of cases of brain and spine operating each and every part with utmost care and responsibility preserving normal anatomy and preventing any complication and also controlling any complication if occured during surgery.

During surgery of brain and spine, i encountered vascular complication in 5 cases. But all were controlled intraoperatively.

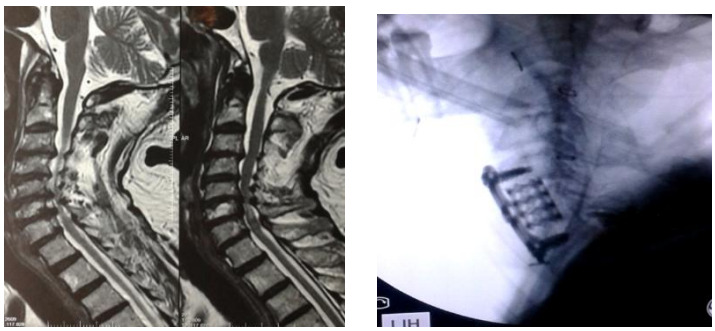
I always tried my best in giving least morbidities and mortalities, and in this attempt of mine, i was quite successful.

Keeping restricted my self to the lesion and preventing any injury to the normal anatomic structure of brain and spine is very difficult, because brain and spine structure are very small to differentiate between pathological and anatomical normal structure.

Basis of treating neurosurgical patient depends on the diagnosis made throughthe history given by the patient along with the symptoms and signs diagnosed by the neurosurgeon and clinico radiological co-relation made by ct / mri / angiogram / spectroscopicmri / tractogram / venogram of brain and spine.

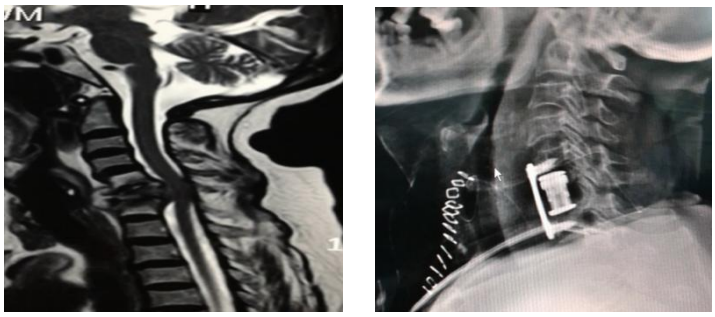
Medicolegal aspect of every neurosurgical patient depends on taking proper consent and explaining every aspect of complication morbidity and mortality to each and every close relative including the patient.

Case -1. This 45 year male presented with weakness in all four limbs with numbness and tingling in upper limbs and could not able to grip things and difficulty in walking, buttoning -un buttoning, counting currency. He could not able to do routine work.**patient joined his duties after 1 month of surgery.**



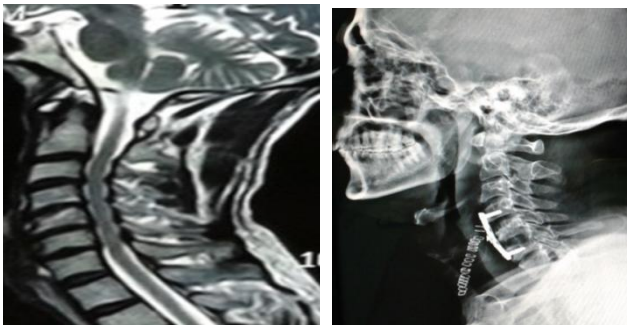
Two Level Cervical Spondylosis (Pre-Op And Post Op)

Case- 2. This 60 year female presented with c6 pott's spine with cord compression with quadriparesis with bladder and bowel involvement. She was taken on antitubercular tablets but symptoms did not subside, thus it was planned for corpectomy with c5/c6 discectomy and c6/c7 discectomy and c6 corpectomy.weakness in four limbs, bladder and bowel involvement and breathing improved after 12 days of surgery and **she joined her housewife work after 1 month.**



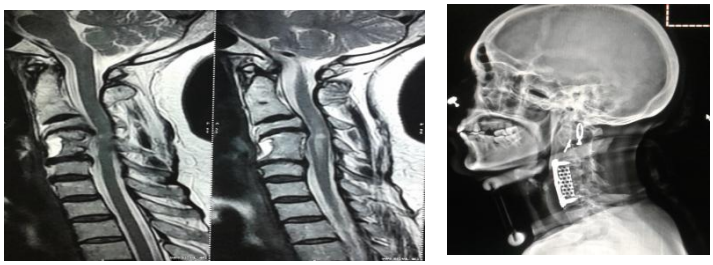
Cervical Pott's Spine (Pre-Op And Post-Op)

Case-3. This 50 year male presented with severe neck pain and numbness and tingling in hands. On examination, there was no neurological deficit.as there was no neurological deficit.**patient joined his work after 15 days of surgery.**



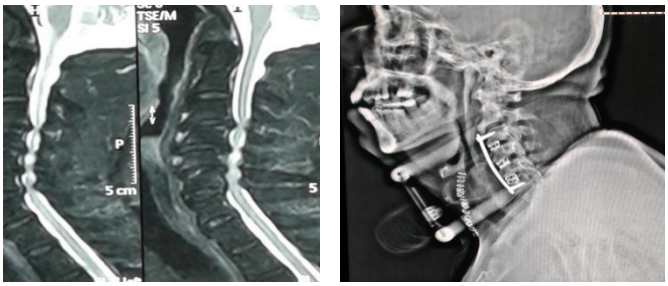
Two Level Cervical Spondylosis(C4/C5 And C5/C6)(Pre-Op And Post-Op)

Case-4. This 57 year female presented with weakness in all four limbs with breathing difficulty.on examination, hand grip was weak associated with weakness in standing and walking.on mri, there were cord changes with myelomalacia at c4 and c5 level. During surgery c4 and c5 corpectomy of two level with mesh cage and anterior cervical plate and screw fixation was done.post operatevily she responded to treatment and hand grip and weakness in all four limbs improved after 3 month with breathing difficulty improved after 7 month.patient developed increase in numbness and tingling which persist for 1 year, but she remained ambulatory 3 days after surgery and even continent.it remained very difficult to explain in opd post-operatively that numbness and tingling, weakness and breathing difficulty took a longer time in myelomalcic cord. **Patient joined her daily work as house wife after 45 days of surgery.**



C4-C6 Healed Pott's Spine With Cord Compression(Pre-Op And Post-Op)

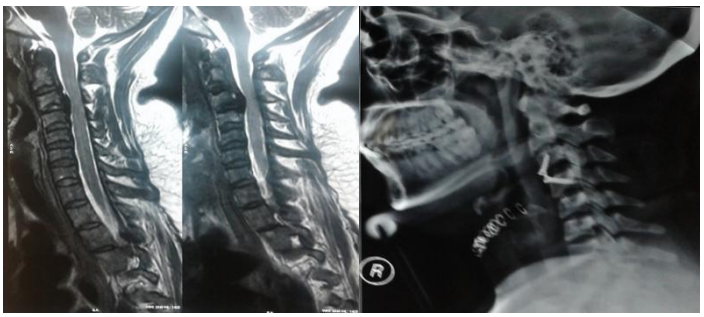
Case-5.58 Year male presented with quadriparesis, thenar and hypothenar atrophy with difficulty in gripping and counting currency, numness and tingling in all four limbs and breathing difficulty.he consulted many physicians who treated him on the line of infarct. He consulted many quacks but his weakness increased.after 2 year, some advised mri of cervical spine which concluded that there was severe cord compression at three levels c3/c4, c4/c5 and c5/c6. He then was advised anterior cervical approach, c3/c4, c4/c5 and c5/c6 mesh cage and anterior cervical plating was done under g.a. weakness in all four limbs, bladder and bowel retention and breathing difficulty improved within 1 month but numbness and tingling took 4 months to improve**. He joined his duties as guard within 2 months**



Three Level Anterior Cervical Spondylosis (C3/C4,C4/C5,C5/C6) (Pre-Op And Post-Op)

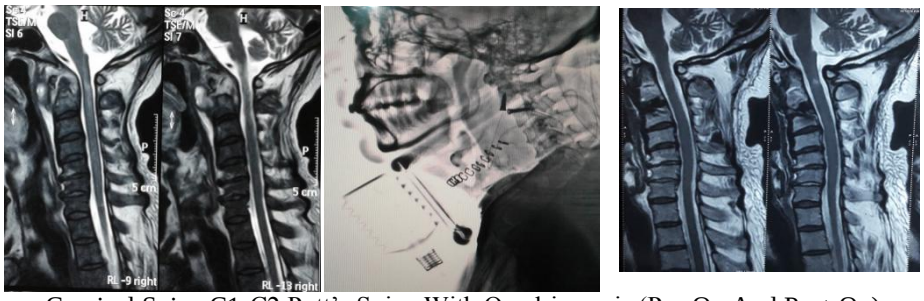
Case -6. This 37 year female patient presented with c3/c4 disc bulge and ossified posterior longitudinal ligament with numbness and tingling bilateral upper limb and hand grip weak. She was bed ridden due to two major spinal diseases, one at cervical spine and another at dorsal spine which led to quadriparesis. She could not able to decide what to do and which operation is important. She was being treated conservatively for months by local rmp and quacks, due to the fear of quadriparesis following surgery. In second stage, c3/c4 discectomy and peek carbon cage and screw fixation done. She responded to treatment after second surgery. She started walking after

3 months. **It was a great achievement for her to back to house -wife from bed ridden patient. She also distributed sweets in hospital.**



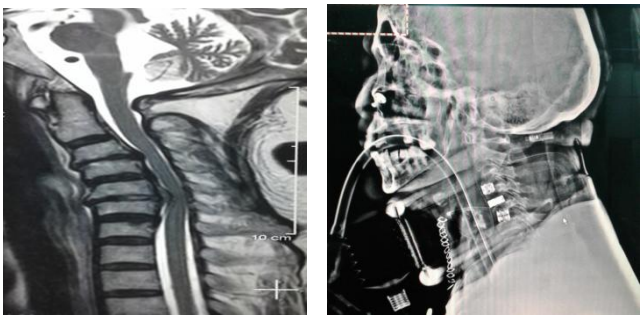
D8/D9 Canal Stenosis, C3/C4 -Opll (Pre-Op And Post-Op)

Case -7. Patient was admitted on stretcher and referred from apex hospital of india saying that nothing could be done. On admission his power was 2/5 in all four limbs. He could not able to sit or walk. On mri there was cold abscess starting from c1 to thorax and lumbar and then to psoas abscess. This abscess starts from longus colli downward. He was completely bed ridden and he could not even flex his left lower limb. After c2/c3 discectomy and fixation using peek cage and screw and drainage of abscess, he could able to hold his head and started standing within 3 month and started sitting with 5 months. He joined his duties after 7 months. He developed increase in numbness and tingling in all four lims which improved within 3 months. He was so happy that a premier apex medical institute told him that he could never able to walk, but after one surgery and proper att**, he could able to join his duties within 7 months**.



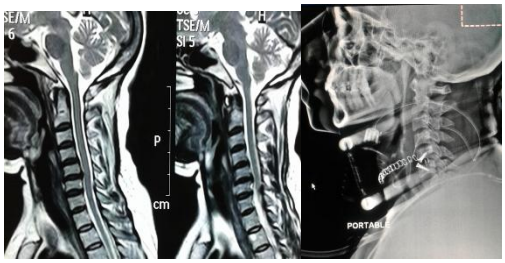
Cervical Spine C1-C2 Pott's Spine With Quadriparesis (Pre-Op And Post-Op)

Case -8. This 58 year female patient was initially admitted in heart institute with quadriparesis power grade 2/5 in upper limb and 1/5 in lower limbs. She was obese, diabetic, hypertensive.on mri, there was cervical canal stenosis. She presented with quadri-paresis with bladder and bowel involvement.post operative x-ray showing 2 mesh cage and 1 titanium cage. Anterior cervical plate could not be fixed because it was very difficult to approximate plate.**but at present, she is ambulatory and continent after 3 months of surgery.**



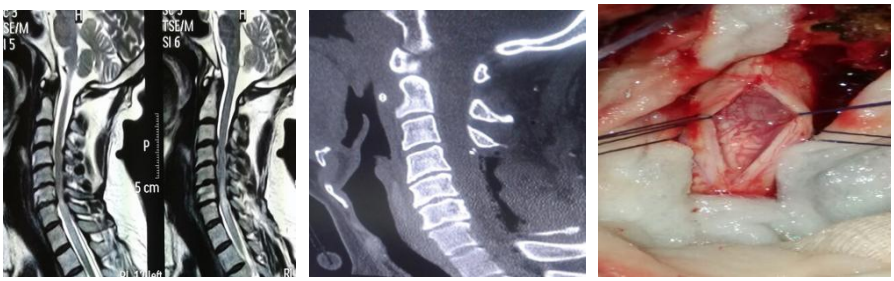
3 Level Cervical Canal Stenosis With Quadri-Paresis With Bladder And Bowel Involvement (Pre-Op And Post-Op)

Case -9.this 45 year female presented with single level disc prolapse c5/c6 on mri with no neurological deficit.c5/c6 anterior cervical discectomy and fixation using peek cage and screw.all concerns were because of no neurological deficit pre-operatively**.patient joined her housewife duties after 15 days of surgery**.



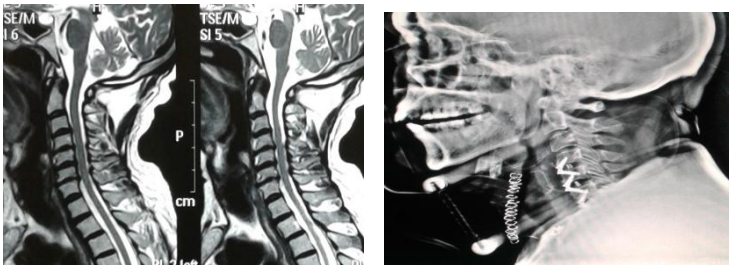
Anterior Cervical Discectomy (Pre-Op And Post-Op)

Case -10.this 48 year male patient presented with quadriparesis, bladder and bowel involvement, with ankle clonus and planter extensor.he was advised antitubercular from one top private hospital and no surgery with d/d of intramedullary tumour. On mri there was significant cord changes from c4 -c7 leading to quadriparesis with difficulty in chest expansion, abdominal tightness, difficulty in gripping and holding glass. He could not able to do his routine duties. He consulted top private institute which has a good name in india and abroad, but they did not advised surgery and treated him conservatively on antitubercular because.one attendant consulted me and asked for surgery. I advised surgery, but she want to rule out intramedullary tumour thus i decided to do laminectomy first and to open the dura so i did and found no tumour or tb. In 2 nd stage i was planning anterior cervical approach.c4-c7 laminectomy done with decompression of cord and dural repair. **He was ambulatory post-operatively**.



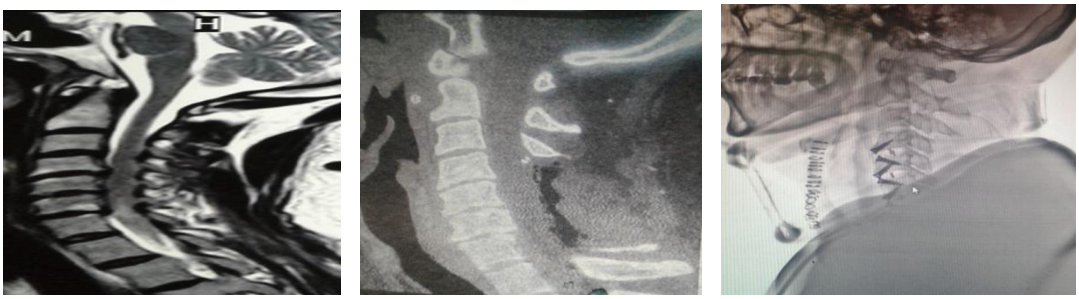
3 Level Cervical Canal Stenosis, C6/7 Intramedullary Mass (Pre-Op And Post-Op)

Case -11. This 76 Year Male Presented With Neck Pain, Weakness In All Four Limbs From Last 6 Month. On Examination, Power Bilateral Upper And Lower Limb 4/5, Hand Grip Weak And Numbness And Tingling Bilateral Upper And Lower Limb.During Surgery, C4/C5, C5/C6 And C6/C7 Discectomy And Peek Cage And Screw Fixation Done. **He Responded To Treatment And Could Do His Routine Activities After 3 Months Of Surgery.**



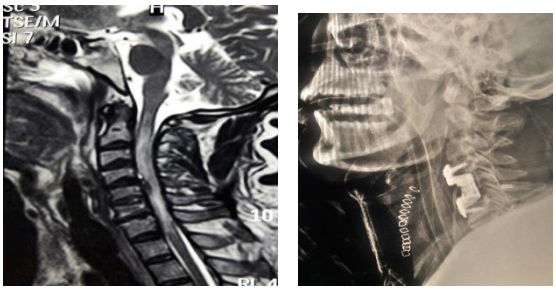
Three Level Cervical Spondylosis (Pre-Op And Post-Op)

Case -12.this patient was operated for laminectomy in stage 1. Now this is second stage to decompress anterior cord compression. He presented with weakness in hand grip, difficulty in overhead abduction and tightening on chest and abdomen with significant cord changes. C4/c5, c5/c6 and c6/c7 discectomy and peek cage and screw fixation done. **Patient joined his duties as geographic teacher in delhi government teacher after 2 months of surgery.**



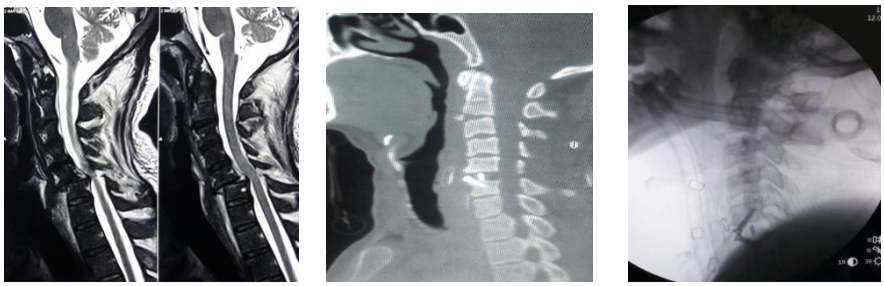
Three Level Cervical Spondylosis With C6/C7 Intramedullary Mass/ Tuberculoma (Pre-Op And Post-Op)

Case -13. This 55 Year Male Patient Presented With Old History Of Cervical Spondylosis Of 6-7 Year With History Of Physiotherapy Followed By Sudden Onset Quadriplegia, Bladder And Bowel Involvement With Respiratorory Arrest, Taken On Ventilator. Kept On Ventilator For 10-11 Days At Meerut And Then Shifted To Delhi. Pronged Ventilator And No Lung Expansion Was Due To The Fact That Whole Segment Of Cervical Cord Was Oedematous, Which Caused Consolidation Of Lung.He Was Also Diabetic And Hypertensive And Took Steroid For 6-7 Year Which Caused Low Immunity.T2 Sagittal Mri With C4/C5 Extruded Disc With Cord Oedema From C1 To C6.**Patient Died After 16 Days Of Surgery As There Was No Spontanenous Respiration From 10 Days Before Surgery(Ventilator Dependent)**



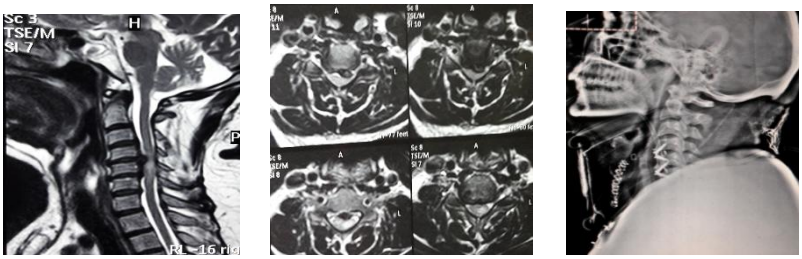
C4/C5 Extruded Disc (Pre-Op And Post-Op Photo)

Case -14.this 38 year male presented with road traffic accident with no deficit but splenic injury and left hemothorax. Gcs 15/15 with no signs of cervical injury. Attended opd after 10 days of injury. He complaint of numbness after 9 days of injury.mri whole spine screening done, which revealed splenic injury also, thus splenectomy done and then cervical surgery done.c5/c6 laminectomy done and unlocking of facets done in ist stage and then in supine position anterior cervical discectomy and fixation done.**numbness and tingling increased after surgery but improved after 3 months.but no neurological deficit after surgery**.



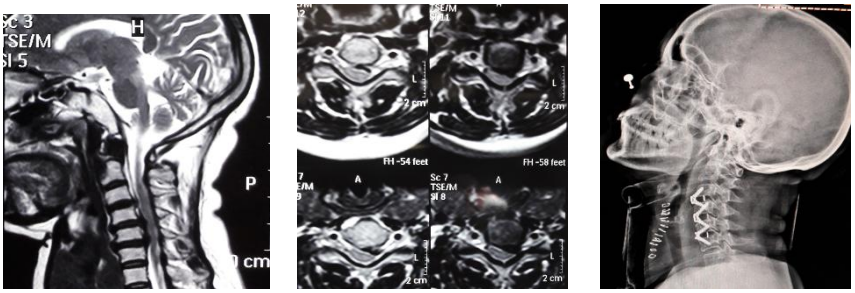
Post Traumatic C5/C6 Spondylolisthesis (Pre-Op And Post-Op Photo)

Case -15. This 45 Year Male Presented With Post Traumatic Cord Compression With Quadriparesis Grade 3/5. On Sagittal Mri There Was Severe Cord Compression At C4/C5 And C5/C6. He Was Admitted With History Of Fall Followed By Weakness In All Four Limbs. He Was Operated With Anterior Cervical Discectomy And Peek Plus And Screw Fixation At C4/C5 And C5/C6.Weakness In All Four Limb, Bladder And Bowel Involvement Improved And Breathing Difficulty Improved After 2-3 Months (Even Numbness). **Patient Joined His Duties After 2 Months**.



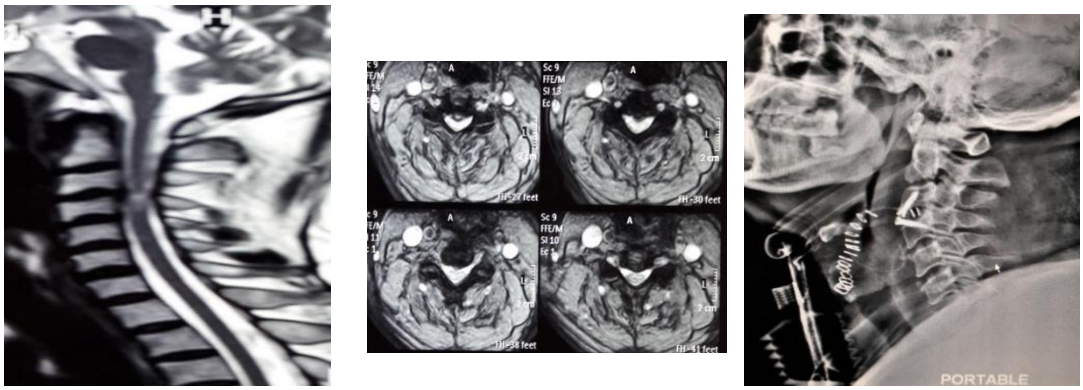
Two Level Cervical Canal Stenosis With Quadriparesis (Pre-Op And Post-Op Photo)

Case 16. This 49 year female presented with neck pain, right upper limb weakness more than left and numbness and tingling bilateral upper limb.on sagittal t2 mri, three level cord compression from c3 –c6. During surgery c3/c4, c4/c5, c5/c6 discectomy and fixation done using peek plus and screw fixation.**patient joined as housewife after 1 month of surgery.**



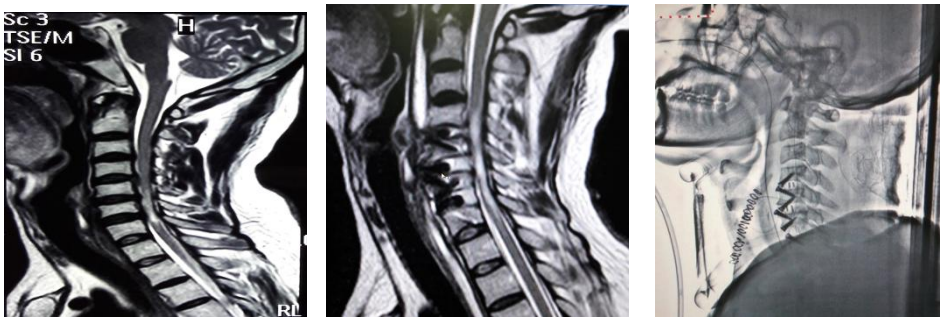
Three Level Cervical Spondylosis (Pre-Op And Post-Op Photo)

Case -17.this 55 year male presented with post traumatic cord compression. On mri, there was c3/c4 pivd with weakness in all four limbs, upper limb 3/5 with hand grip weak and lower limbs 4/5. Lower limbs tone increased. Plantar extensor and bladder and bowel involved.on mri, there was c3/c4 cord compression with myelomalacia.during surgery, c3/c4 discectomy and fixation done using peek plus and screw.**patient joined his duties after 3 months of surgery.**



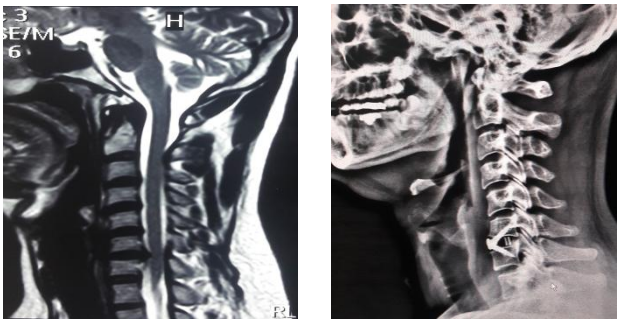
C3/C4 Pivd (Pre-Op And Post-Op Photo)

Case 18.this 38 year male presented with weakness in all 4 limbs (quadriparesis), bladder and bowel retention,difficulty in gripping,hypothenar and thenar atrophy.on mri, there was c4-c7 cord compression with myelomalacia.c4/c5, c5/c6 and c6/c7 discectomy and peek plus and screw fixation done.cord oedema and weakness increased after surgery but improved after 24 hour of surgery with solumedrol infusion. **Patient started as home tutor work after 3 months of surgery.**



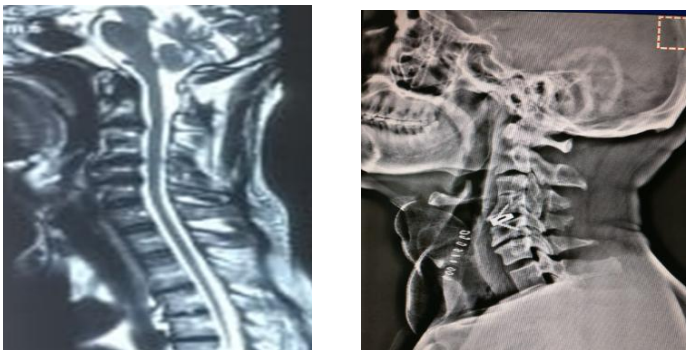
Three Level Cercical Myelopathy (Pre-Op And Post-Op)

Case -19. This 23 year male presented with sudden onset right upper limb weakness and numbness. On examination right hand grip and overhead abduction weak. On mri sagittal scan, there was right c6/c7 disc bulge.c6/c7 discectomy and fixation done using peek plus and screw.**patient joined his duties after 8 days of surgery.**



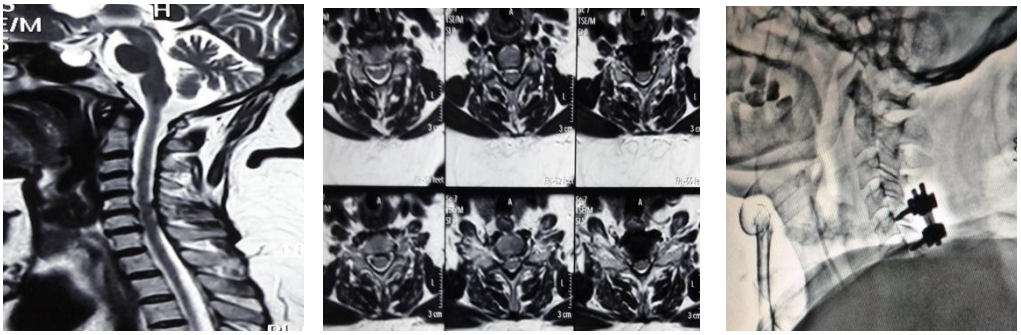
Right C6/C7 Disc Prolapse (Pre-Op And Post-Op Photo)

Case -20. This 45 year south african male presented with neck pain and numbness right upper limb. On mri, there was cervical spondylosis at c4/c5 with large anterior and posterior osteophytes.c4/c5 discectomy and titanium cage and screw fixation done.**post op neck pain and numbness resolved and returned his country with no deficit.**



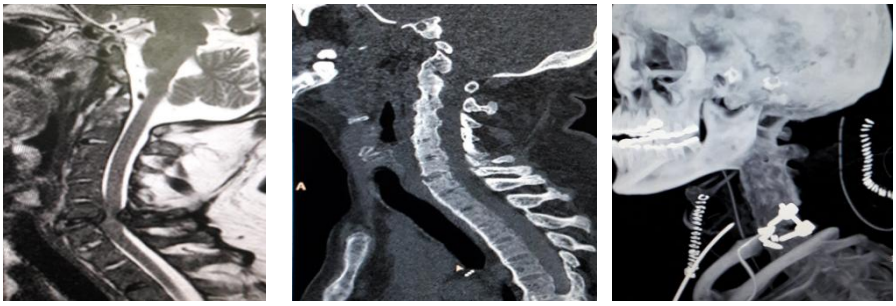
C4 Cervical Spondylosis –Prominent Anterior And Posterior Osteophytes (Pre-Op And Post-Op Photo)

Case -21.this 71 year female presented with neck pain, left shoulder pain, numbness and tingling left upper limb. Mri cervical spine sagittal scan shows c5/c6 and c6/c7 cervical cord compression.two level cervical laminectomy and posterior cervical lateral mass screw fixation done. Patient responded to treatment and **she started her routine duties after 35 days**.



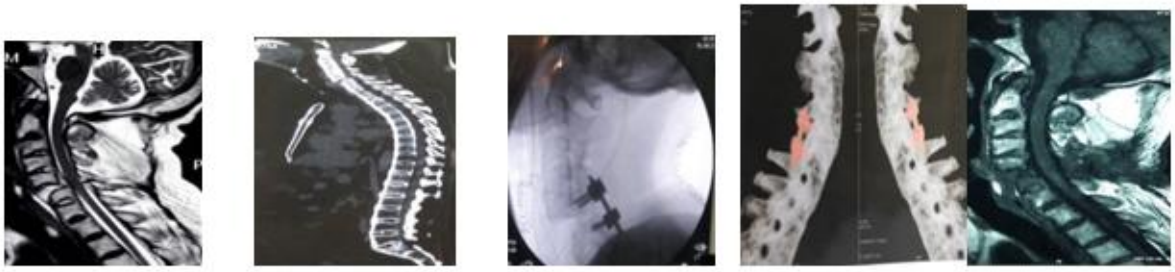
Two Level Cervical Cord Compression (Pre-Op And Post-Op Photo)

Case -22. This 50 year male presented with neck and back pain, quadriparesis from one and half month. There was a history of fall followed by weakness in all 4 limbs.on mri and ct scan there was fluorosis with c6-c7 post-traumatic cord compression with fluorosis with ankylosing spondylitis. On examination, power bilateral upper limb- 3/5, lower limb 1/5.after surgery- power upper and lower limb 3/5.posterior cervical laminectomy and lateral mass screw and rod fixation done in ist stage and then anterior cervical discectomy and fixation done using peek plus cage and screw**.patient started doing his shop work after 5 months.**



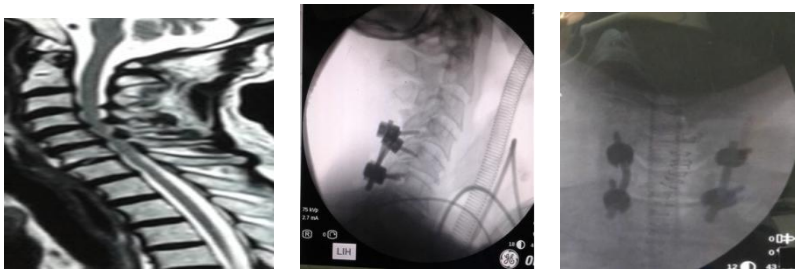
C6-C7 Post-Traumatic Cord Compression With Fluorosis With Ankylosing Spondylitis (Pre-Op And Post-Op Photo)

Case -23. This 55 year male was admitted as a known case of dm, htn and ankylosing spondylitis. He was taking steroid from last 8 year. He had a history of fall followed by listhesis at c5/c6 with quadriparesis grade 2-3/5. He was operated with fixation using c5/c6 pars/ lateral mass screw. On admission, his power in bilateral upper limb 2/5 at shoulder, 3/5 at elbow and hand grip weak and lower limb power 4+/5 and numbness and tingling bilateral upper and lower limb.after 1st surgery (c5/c6 lateral mass and screw fixation done), patient presented with shoulder abduction 1/5. He was planned for 2nd stage of anterior cervical fixation after 5 days**.he joined his duties after 4 months of 2 nd surgery.**



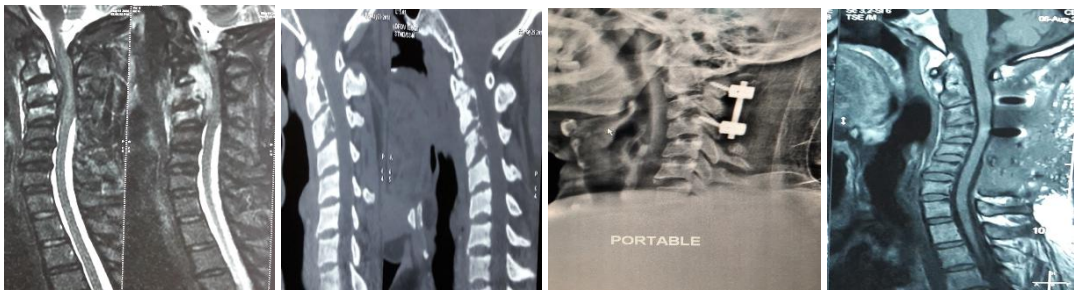
Ankylosing Spondylitis with C5/C6 Listhesis with Quadriparesis (Pre-Op and Post-Op Photo)

Case -24. Stage 1 surgery, in 76 year male with past h/o brain infarct with hemiparesis with dysphasia and quadriparesis grade 3/5 upper limb and 2/5 lower limb. Posterior cervical laminectomy and fixation using c4-c6 lateral mass screw of 12mm length and 3.5mm width**.patient did his daily routine work of toilet and eating after 1 month of surgery.**



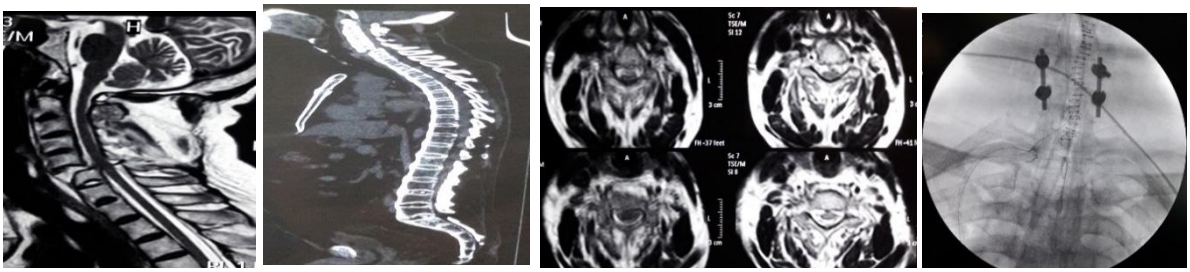
Cervical Canal Stenosis (Pre-Op And Post-Op Photo)

Case -25. This 41 year male presented as a case of c2-c4 pott's with quadriparesis grade4/5 from last 1 month. C2-c4 laminectomy done in stage 1 surgery but after 36 hours of surgery, power decreased to 1/5. Then redo surgery and extension of laminectomy done from c5 –c7. Patient was planned for 2nd stage anterior cervical surgery after 12 days but patient denied anterior cervival spine surgery.on mri, there was c2-c4 pott's spine with anterior cervical cord compression (extradural collection). Contrast mri was showing extradural cord compression. On ct scan, there was erosion of c2-c3 due to pott's spine. Post-operatively, on x-ray, there was c2-c4 lateral mass screw fixation unilaterally. Unilateral screw fixation was done due to involvement of lateral mass of left side due to pott's spine.5 month post-operative mri showing complete regression of pott's abscess on att.**3 month post-operative showing no deficit and he could able to joined his duties.**



C2-C4 Pott" S Spine (Pre-Op And Post-Op Photo)

Case -26.this 55 year male with ankylosing spondylitis, on sulphasalazine and medrol from last 8 years, diabetic, smoker. Now admitted with post traumatic c5/c6 listhesis with quadriparesis grade 4/5 with right upper limb 2-3/.his first surgery was done with c5/c6 cervical lateral mass screw fixation about 12 days back.now post-op after first surgery, power decreased with bilateral shoulder abduction weakness.now plan is anterior cervical bone graft fusion without any implant because spine was rotated and bone could not be approximated for cervical plating**.patient joined his duties after 4 month of surgery.**

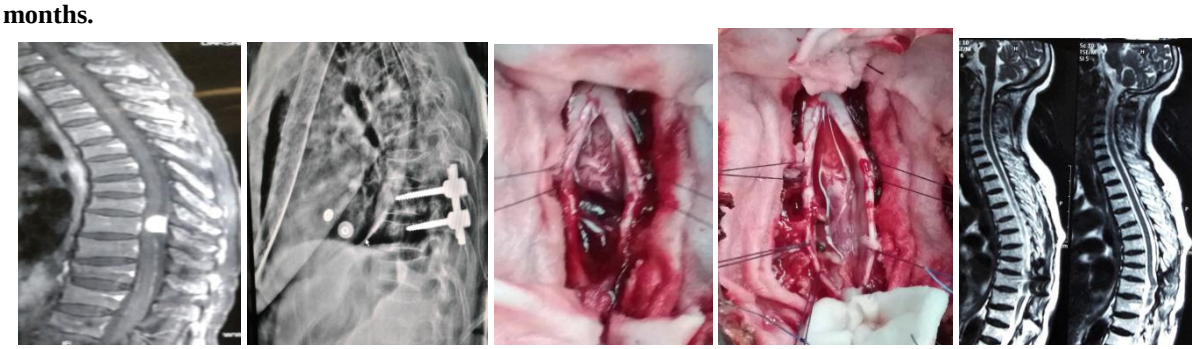


C5/C6 Listhesis (Pre-Op And Post-Op Photo)

Case -27. This 44 year male presented with history of fall. On examination, power left upper limb 4+/5, no other deficit. Mri contrast showing c1/c2 contrast enhancing lesion in sagittal and coronal cut. Lesion is compressing cord and medulla.patient was planned with occipito-c1-c2 laminectomy and tumor excision and occipito-c2/c3 fixation. Patient suffered intra-op non-dominant vertebral artery injury which was controlled with lyca clips.**patient was dischaged with no neurological deficit.**

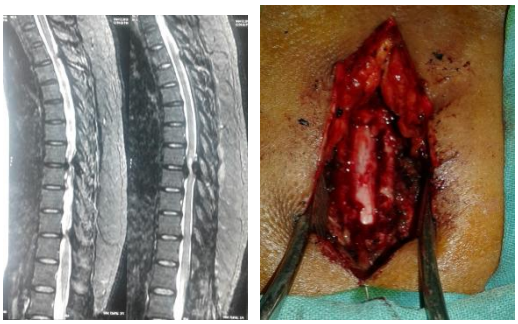
Cervicomedullary Junction Meningioma (Pre-Op And Post-Op Photo)

Case -28.This 64 year female, weakness bilateral lower limb from last 8 months with paraparesis grade 1-2/5 from last 20 days and bladder bowel involvement from last 20 days with freshly diagnosed koch's lung.dorsal d9/d10 laminectomy and excision of meningioma with pedicle screw fixation.**patient started walking after 8 months.**



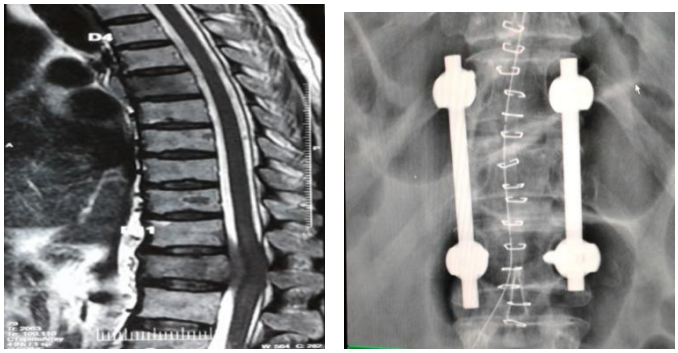
D9/D10 Meningioma (Pre-Op And Post-Op Photo)

Case -29. This 38 year female patient presented with spastic quadriparsis grade 2/5 with ankle and knee clonus with plantar extensor with ligamentum flavum hypertrophy and myelomalacia.laminectomy done from d8-d9 without any fixation.patient responded to treatment and **she started walking after 11 months.**



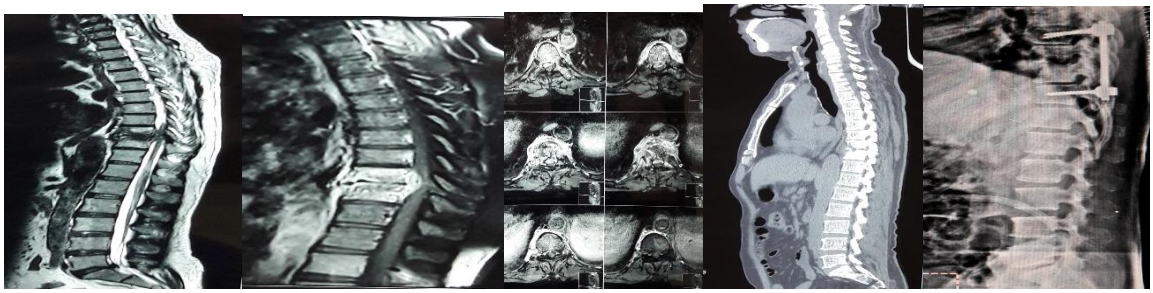
D8/D9 Canal Stenosis (Pre-Op and Post-Op Photo)

Case-30.this 55 year male patient presented with extradural mass at d11/d12 with cord compression with paraparesis grade 2/5 with tone increased and ankle and knee clonus. D11/d12 laminectomy and d10 to l1 pedicle rod and screw fixation done. **Patient did not turned up for follow-up.**



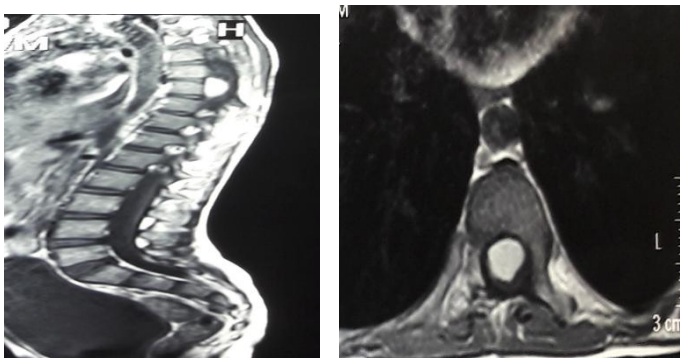
D11/D12 Extradural Mass (Pre-Op and Post-Op Photo)

Case -31. This 58 year male presented with back pain from last 45 days, numbness from 45 days, sudden onset weaknes in both lower limbs from last 2 days with bladder and bowel retention, power bilateral lower limb 1-2/5. On mri there was d9/d10 pott's spine with cord compression.on ct scan with d9/d10 pott's spine showing erosion of bone.during surgery, d9 and d10 laminectomy with tumour decompression and d8 to d11 pedicle screw fixation. **Power improved from 1/5 to 4/5 within 3 and half month.**



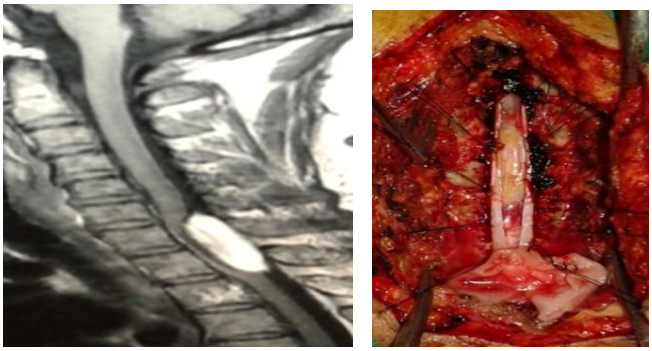
D9-D10 Pott" Spine (Pre-Op And Post-Op Photo)

Case -32. This 14 year male from iraq, operated twice at iraq, with spastic paraplegia and bed sore. On sagittal mri films showing d7/d8 intramedullary mass with contrast enhancement.on admission, power bilateral lower limb was 1/5 with tone increased.laminectomy done but power did not improved. **He went back to iraq.**



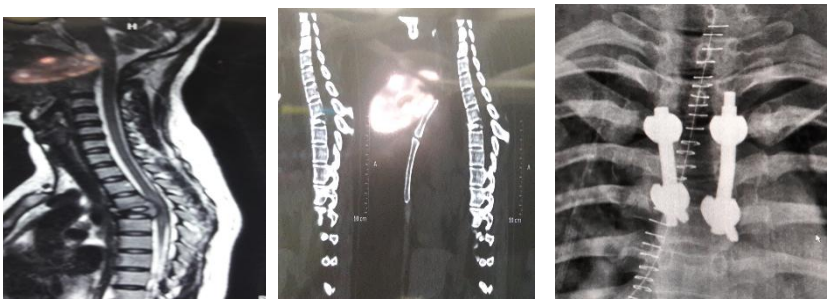
D7-D8 Intramedullary Mass With Recurrence (Pre-Op Photo)

Case -33.this 45 year female presented with back pain. On sagittal scan, mri showing intramedullary mass from c7-d1. On examination, there was no neurological deficit.laminectomy and tumour decompression done.**patient discharged with no deficit.**



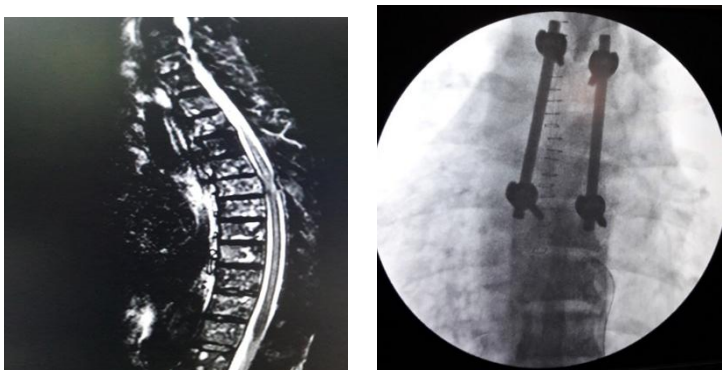
C7-D1 Intradural-Intramedullary Lipoma (Pre-Op And Intra-Op Photo)

Case -34. This 23 year female presented with sudden onset decreased in power of bilateral lower limb to 1/5 with retention of bladder.on mri, there was d3/d4 pott's spine with cord compression with d4 collapse.ct dorsal spine showing d4 collapse.she was operated with d3 and d4 laminectomy and tumour decompression and d3 to d5 transpedicular rod and screw fixation.**she started walking after 8 months.**



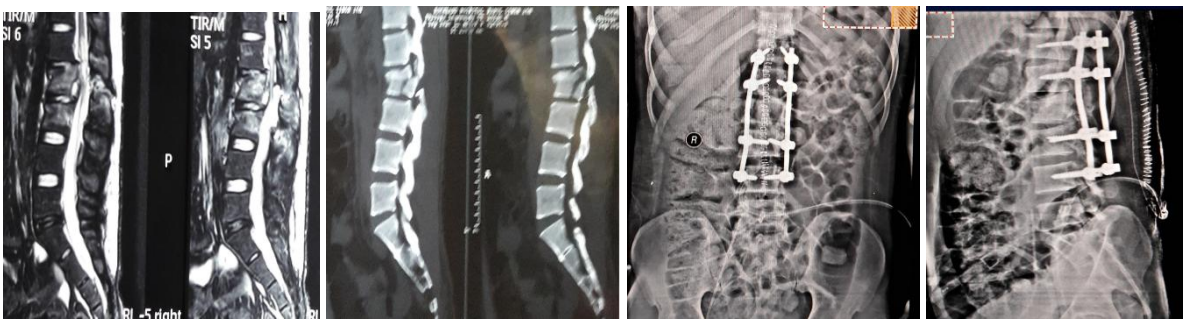
D3-D4 Potts (Pre-Op And Post-Op Photo)

Case -35. This 66 year male presented with primary in prostate with d6/d7 mets presented with lower limb power 1/5 and bladder bowel involvement.**he was discharged with same neurological status.**



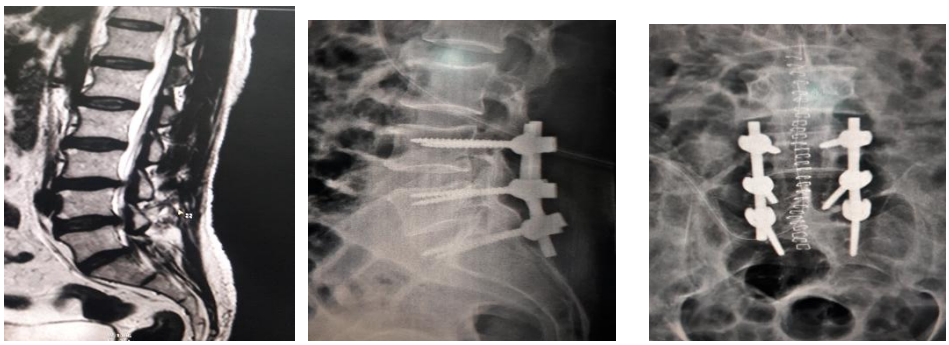
D6-D7 Mets (Pre-Op And Post-Op Photo)

Case -36. This 25 year male presented with diffuse axonal injury grade iii with cerebellar hematoma, retroperitoneal hematoma and fracture l2, with paraparesis grade 1-2/5. On mri, there was fracture l2 with cord oedema from l1. During surgery, d12 to l2 laminectomy with d12, l1 to l3, l4 transpedicular rod and screw fixation done.**patient started walking after 4 months of surgery.**



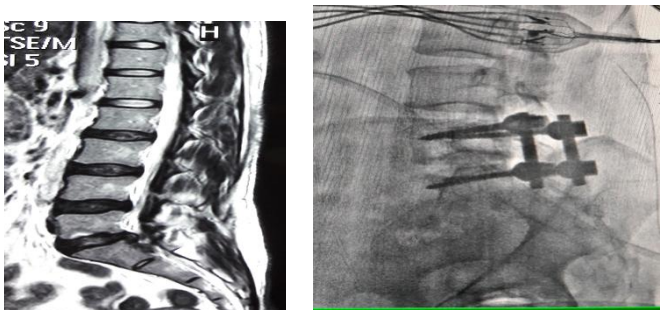
Fracture L2 With Paraparesis Grade 1-2/5 (Pre-Op And Post-Op Photo)

Case -37. This 65 year male presented with low back ache with radiation to bilateral lowr limb associated with numbness and tingling in bilateral lower limb and neurogenic claudication from last 5 year.during surgery, l4-l5-s1 transpedicular rod and screw fixation with laminectomy and bilateral medial facetectomy done. postoperatively, there was no deficit. **He started walking on 4th day of surgery.**



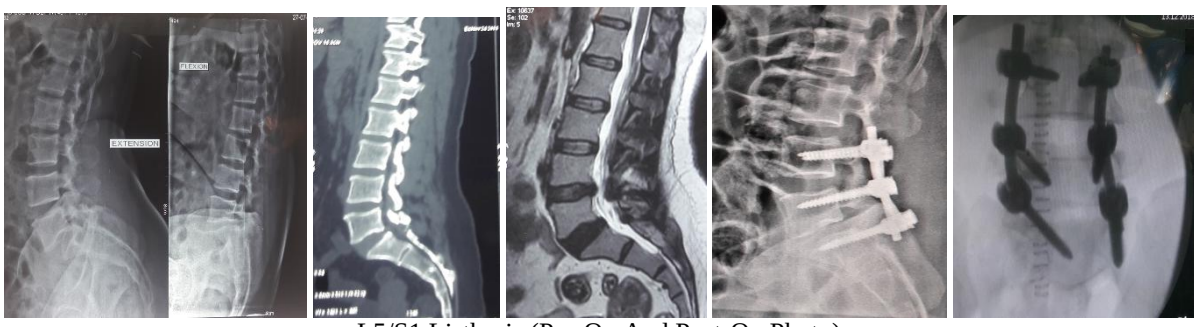
L4-S1 Lumbar Canal Stenosis (Pre-Op And Post-Op Photo)

Case-38. This 45 year female presented with low backache from last 3 year, numbness and tingling from last 3 year, paraparesis grade 4/5 from 16 days, bladder bowel retention from 16 days. Sagittal mri showing lumbo sacral l5-s1 disc prolapse with extruded and migrated disc to the level of s1/s2 left neural foramina.on axial mri showing extruded and migrated disc. Intraoperatively, l5/s1 transpedicular rod and screw fixation with l5/s1 discectomy done.post-operative, there was no deficit**.she started walking on 4 th day of surgery**



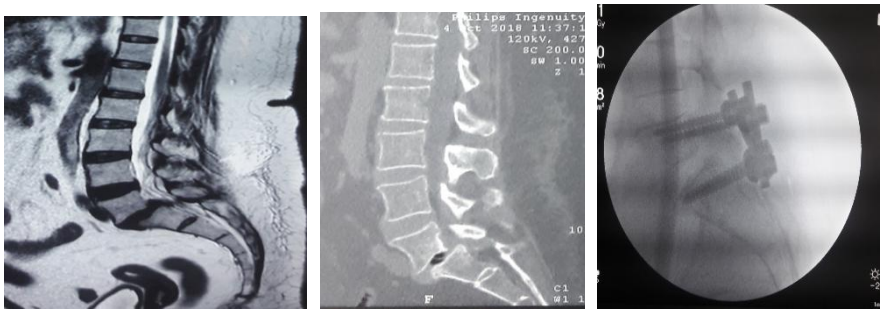
Lumbo Sacral L5-S1 Disc Prolapse With Extruded And Migrated Disc To The Level Of S1/S2 Left Neural Foramina (Pre-Op And Post-Op Photo)

Case -39. This 55 year female presented with low backache from last 6 month, neurogenic claudication, numbness and tingling from last 6 month in right lower limb, pain in back on sitting and standing. X-ray in flexion and extension confirming spondylolisthesis at l5/s1. Mri sagittal view showing no cord compression.l4/l5/s1 laminectomy with pedicle and rod screw fixation done.**patient started walking after 25 days.**

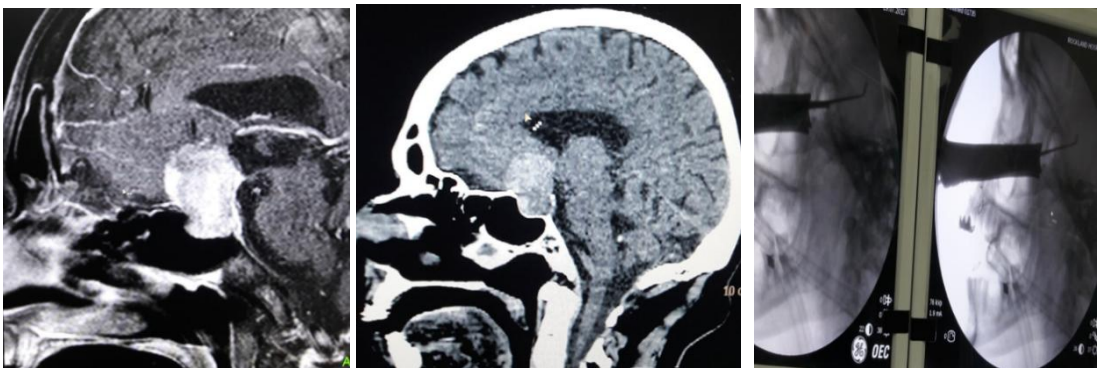


L5/S1 Listhesis (Pre-Op And Post-Op Photo)

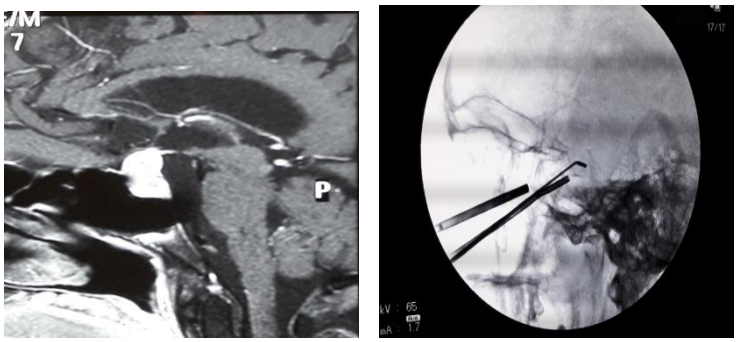
Case -40. This 59 year female presented with severe low back pain with neurogenic claudication. On mri sagittal scan there is severe lumbar canal stenosis.intra-op- l5/s1 fixation done by pedicle screw. **Patient started walking after 30 days.**


L5/S1 Lumbar Canal Stenosis (Pre-Op and Post-Op Photo)

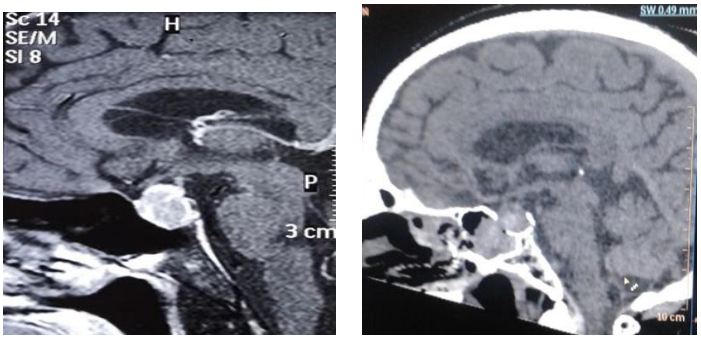
Case -41. This 86 year male presented with sudden onset haedache, vomiting, neck rigidity, acth level raised, serum cortisol raised. It is an acth secreting pituitary adenoma with apoplexy, with deranged kft, diabetes insipidus, vasospasm with bilateral aca infarct. Pre-operative ct scan showing bleed in pituitary.during surgery, sublabial trans-sphenoidal approach for pituitary tumour decompression done. Biopsy report confirmed pituitary adenoma.**death occurred due to myocardial infarction.**


Pituitary Apoplexy With Sah With Vasospasm With Bilateral Aca Infarct (Pre-Op And Post -Op Photo)

Case -42. This 66 Year Male Was An Operated Case Of Ca Larynx With Hypothyroidism (On Att And On Permanent Tracheostomy). Endoscopic Pituitary Tumour Decompression With Pituitary Tumour Decompression Done.Post Operatively, There Was No Neurological Or Hormonal Deficit**.Patient Was Discharged With No Neurological Deficit.**

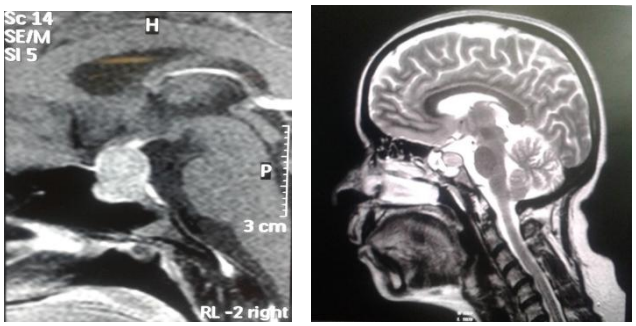

Operated Ca Larynx With Pituitary Adenoma (Pre-Op And Post-Op Photo)

Case -43. This 55 year male patient presented with headcache and blurring of vision with temporal field defect.this pituitary adenoma(prolactinoma) surgery was done via sublabial transsphenoidal approach with no neurological/hormonal/visual deficit post-peratively.**patient discharged with no deficit.**



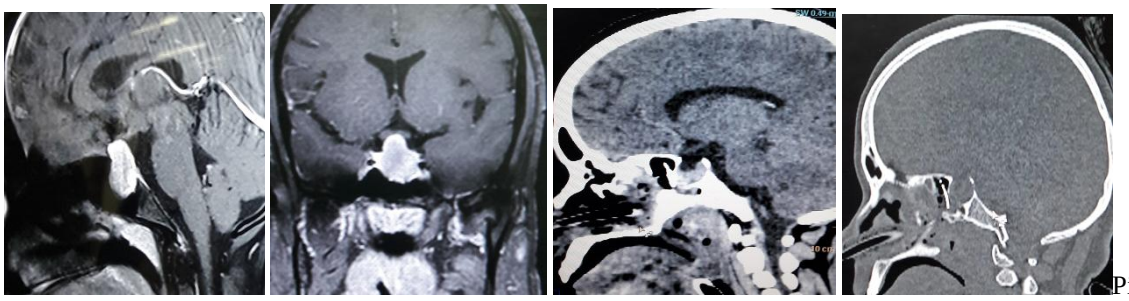
Pituitary Adenoma(Prolactinoma) Done Via Sublabial Transsphenoidal Approach (Pre-Op And Post-Op Photo)

Case[2]-44. This 35 year female came all the way from dubai because she presented with sudden onset headache, vomiting, neck rigidity decreased vision, field defect and third cranial nerve palsy. On admission she was admitted as a case of pituitary apoplexy with 7and ½ month pregnancy.on sagittal contrast mri showing pituitary adenoma compressing optic chiasm from below with symptoms and signs suggestive of iind and iiird nerve injury.during surgery via sublabial transsphenoidal approach for pituitary adenoma tumour decompression done,foetus suffered respiratory depression for which caesarean section done by gynaecologist in same sitting and neonate was kept in icu on ventilator for 12 days.**patient and her new born was discharged with no neurological deficit.**



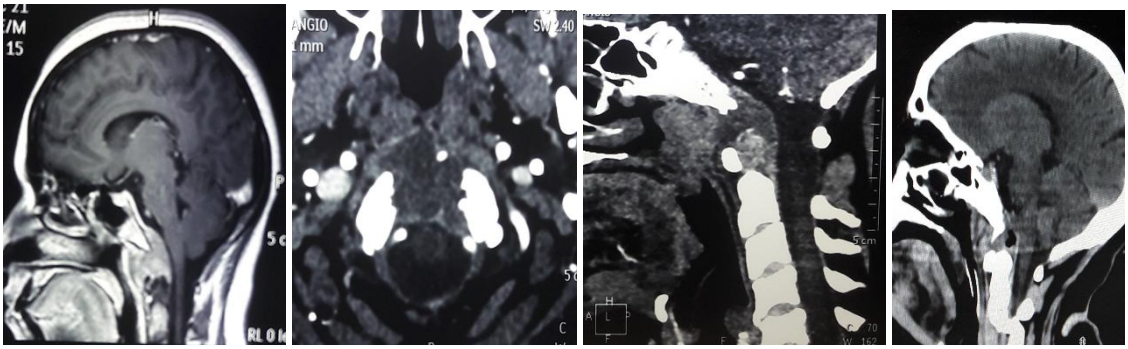
Pituitary Apoplexy With 7and ½ Month Pregnancy (Pre-Op And Post-Op Photo)

Case -45. This 26 year female presented with headache from last 4 year with amenorrhea from last 4 year. Pre-op mri on sagittal scan showing pituitary apoplexy with prolactinoma.post-op sagittal ct scan with sphenoid reconstruction using titanium plate.**patient was discharged with no neurological deficit.**



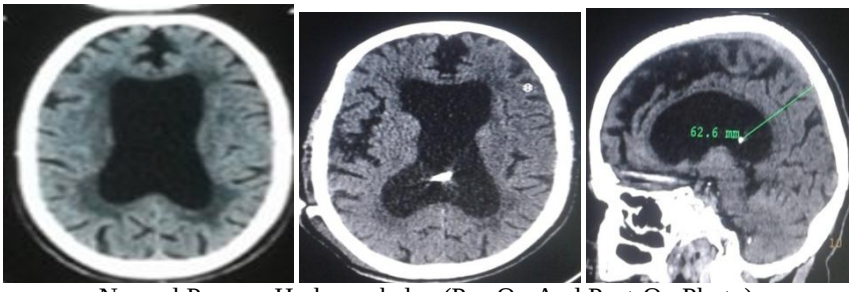
Pituitary Apoplexy (Pre-Op and Post-Op Photo)

Case -46. This 54 year female presented with headache with no neurological deficit. Mri sagittal scan shows clival chordoma.during surgery, transoral approach and decompression of clival mass done.**patient was discharged with no neurological deficit.**



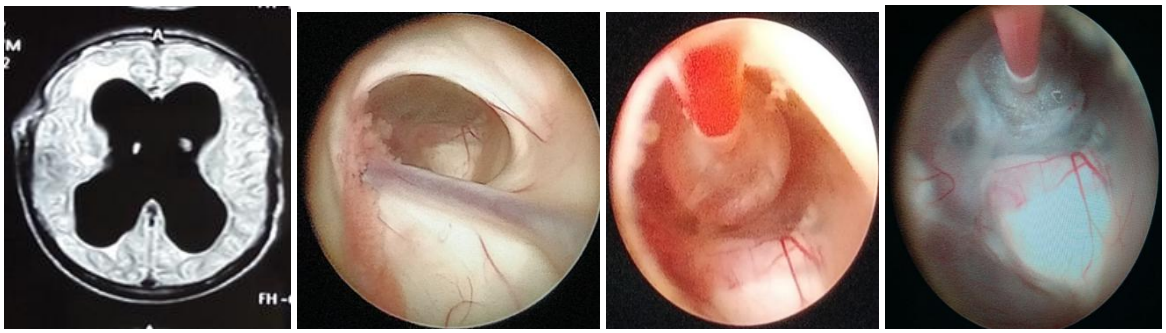
Clival Chordoma (Pre-Op and Post-Op Photo)

Case -47. This 84 year male, presented with 1. Dementia., 2. Incontinence, 3. Ataxia (completely bed ridden). He improved with 30 ml lumbar csf drainage. Then right ventriculoperitoneal shunt done using codman hakim programmable with bactiseal catheter with initially pressure set at 110mm h2o then gradually reduced to 90 mm h2o. Post-operative x-ray showing codman hakim programmable shunt valve.post-operative photo with all symptoms of normal pressure hydrocephalus relieved.**patient discharged with no neurological deficit.**



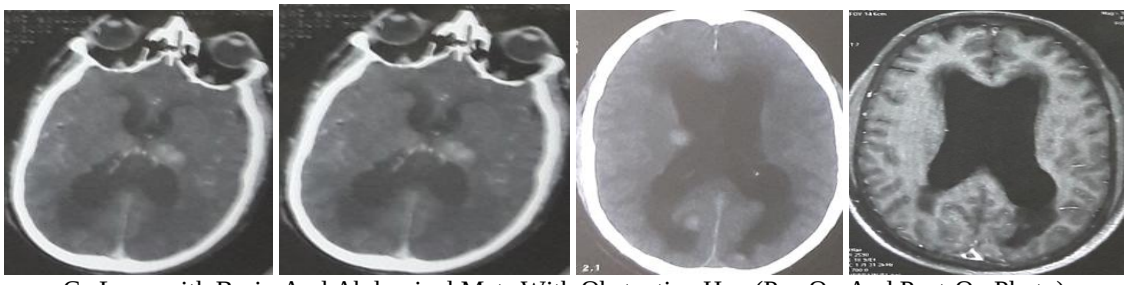
Normal Pressue Hydrocephalus (Pre-Op And Post-Op Photo)

Case -48. This 65 year male with poor chest and gcs e4 vt m1.now admitted 3rd time (3rd surgery) for neuronavigation guided etv which was done on 21.8.17.**patient was discharged post-operatively.**



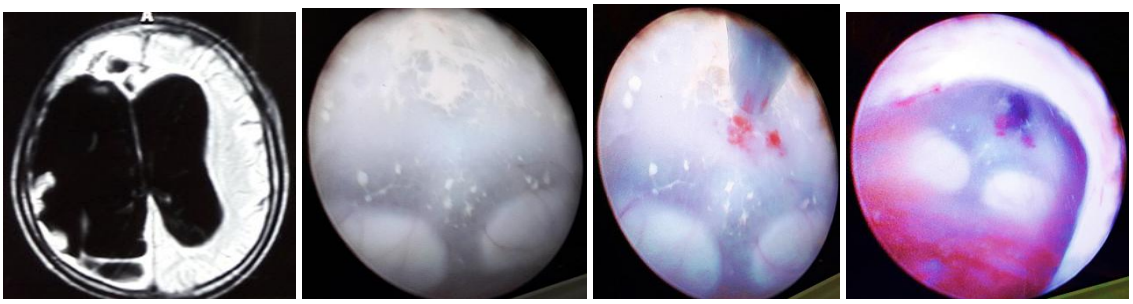
Ventriculomegaly with Obstructive Hydrocephalus (Pre-Op And Intra-Op Photo)

Case -49. This 61 year male, sudden onset loss of consciousness, headache, vomiting, primary ca lung with multiple brain and abdominal mets. Endoscopic third ventriculostomy done.**patient was discharged with no neurological deficit but died after 35 days due to carcinoma lung.**



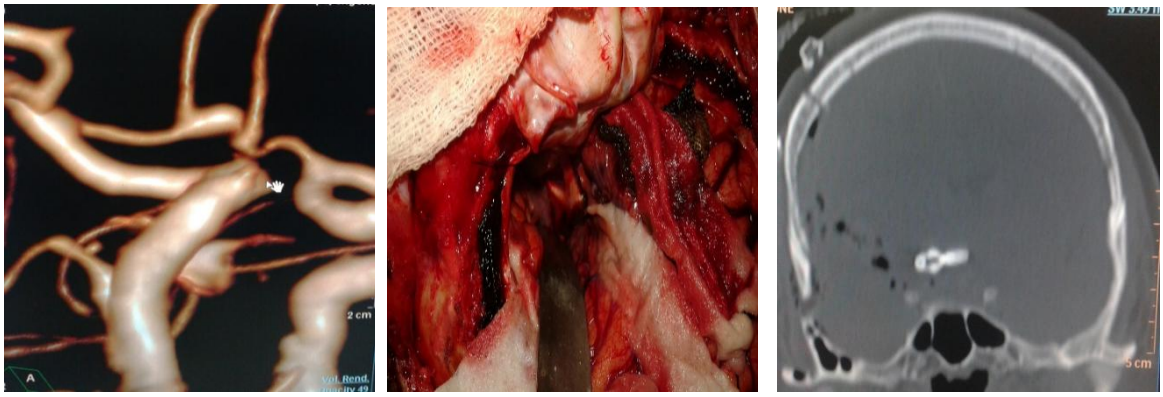
Ca Lung with Brain And Abdominal Mets With Obstuctive Hcp (Pre-Op And Post-Op Photo)

Case -50. This 50 year male with right hemispheric infarct with gliosis 1 year back, left hemiplegia, on tracheostomy and pre-operatively gcs e3vt m3. Glasgow coma scale after endoscopic third ventriculostomy from left side was e4 vt m6. Both mammillary body seen through foramen of monro via endoscopic third ventriculostomy.**patient was discharged with no neurological deficit.**



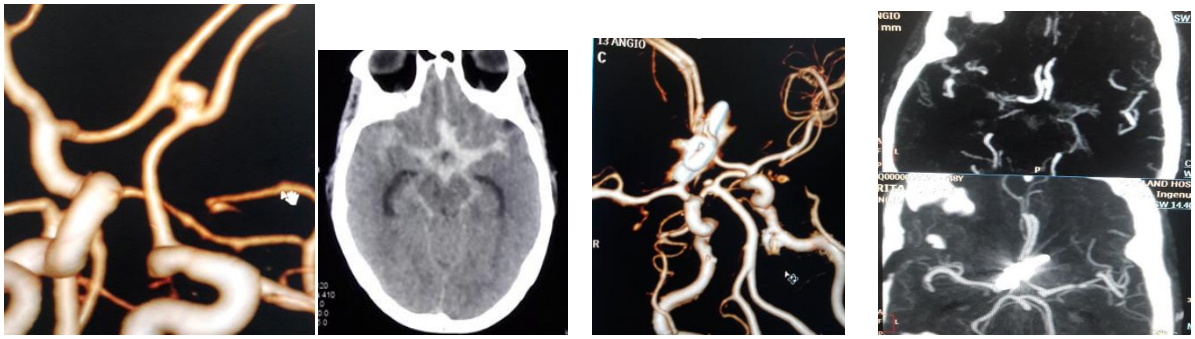
RT Middle Cerebral Artery Infarct with Gliosis With Ventriculomegaly (Pre-Op And Post-Op Photo

Case[1] -51. This 40 year female presented with aneurysm arising from anterior communicating artery with base towards right a1 and a2 junction.intraoperative picture showing retracted frontal and temporal lobes showing optic chiasm.patient showing left hemiparesis post opertively.**patient was discharged with hemiparesis grade 4/5 neurological deficit.**



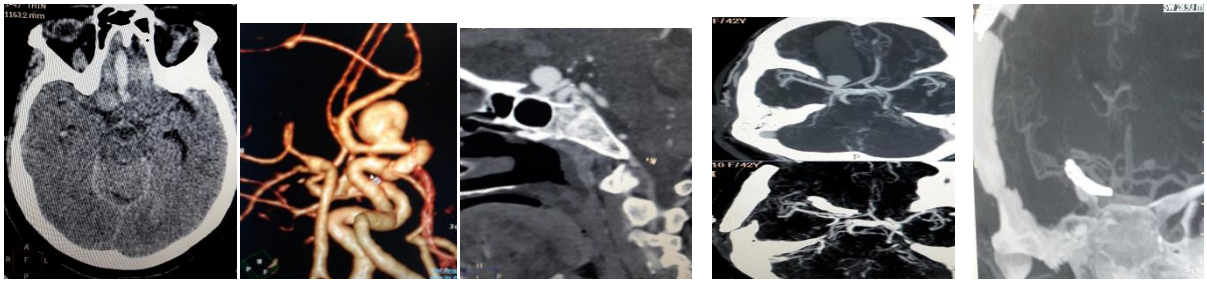
Anterior Communicating Artery Aneurysm (Pre-Op and Post-Op Photo)

Case -52. This 48 year female presented with sah grade ii, left hemiparesis and neck rigidity.post-operative, ct-angiography brain showing aneurysm clip applied on aneurysm.**patient was discharged with no neurological deficit.**



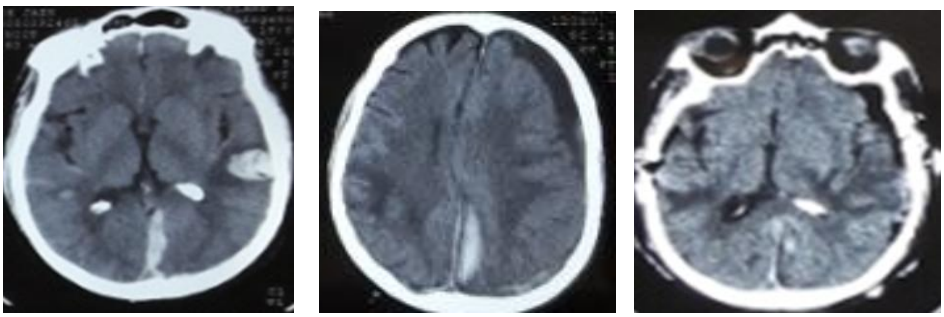
ANTERIOR COMMUNICATING ARTERY ANEURYSM (PRE-OP AND POST-OP PHOTO)

CASE -53. THIS 43 YEAR FEMALE WAS ADMITTED WITH SAH GRADE V WITH RIGHT ICA ANEURYSM. ON ADMISSION, HER GCS WAS E1VET M3 WITH LEFT HEMIPLEGIA, ADMITTED INTUBATED.CT ANGIO DONE AND SHE WAS OPERATED ON SAME DAY.POST –OPERATIVELY SHE WAS KEPT ON VENTILATOR AND TRACHEOSTOMY DONE.**LEFT HEMIPARESIS CONTINUED EVEN ON DISCHARGE.**



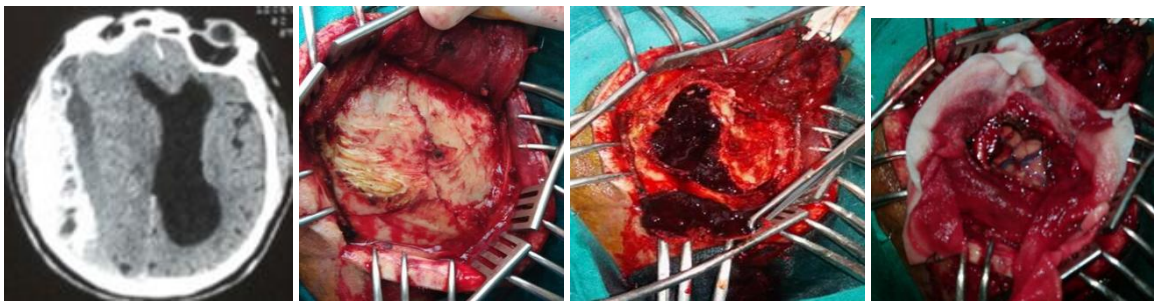
Right Large ICA Aneurysm (Pre-Op And Post-Op Photo)

Case -54.this 66 year male with aortic valve replacement in1997 (on warfarin with inr 2.4) now presented with history of fall (also had bilateral lower limb deep venous thrombosis),rt lower limb venous ulcer.on admission, gcs was e4 v4 m5, disorientated and irritable.bilateral craniotomy done. **Patient was discharged with no deficit**.



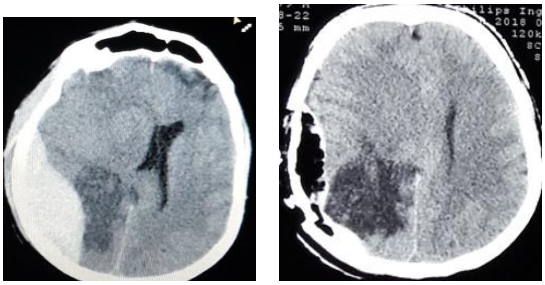
Multiple Intracranial Bleed (Pre-Op And Post-Op Photo)

Case -55. This patient presented with gcs 6/15. On mri/ct- right linear and transverse fronto-parietal bone fracture, right large extradural hematoma, right acute on chronic subdural hematoma.intraoperative picture showing fracture segment, extradural hematoma seen after craniotomy.normal brain after evacuation of subdural hematoma.**patient was discharged with no neurological deficit.**



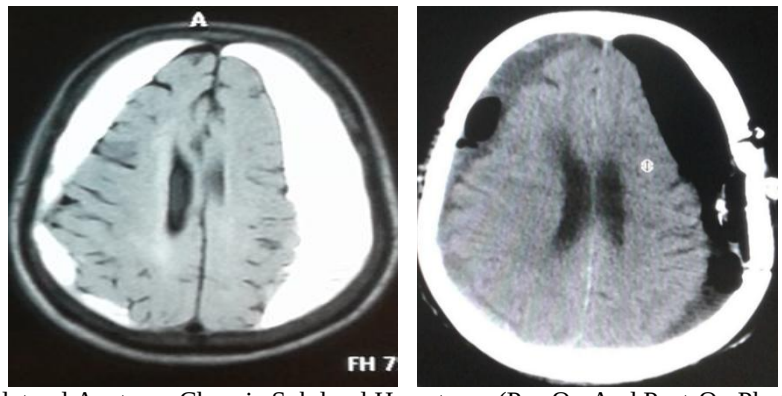
Follow/Up/Operated/Case Of Left Subdural Hematoma, Now Presented With Fall And Loss Of Consciousness (Pre-Op And Post-Op Photo)

Case -56. This 56 year male presented with history of fall at madhya pradesh, then shifted to delhi. On ct scan, there was right extra dural hematoma(pre-0p) with gcs 8/15 with left hemiplegia**.patient was discharged with no neurological deficit except left hemiparesis grade 3/5.**



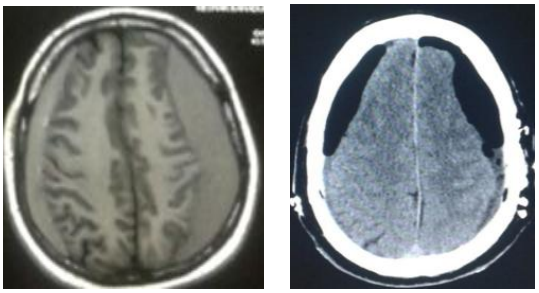
Right Extra Dural Hematoma (Pre-Op and Post-Op Photo)

Case -57. This 60 Year Male Presented With Bilateral Acute On Chronic Subdural Hematoma.Pre-Operative Mri Showing Bilateral Subdural Hematoma.**Patient Was Discharged With No Deficit Except Right Hemiparesis Grade 4/5.**



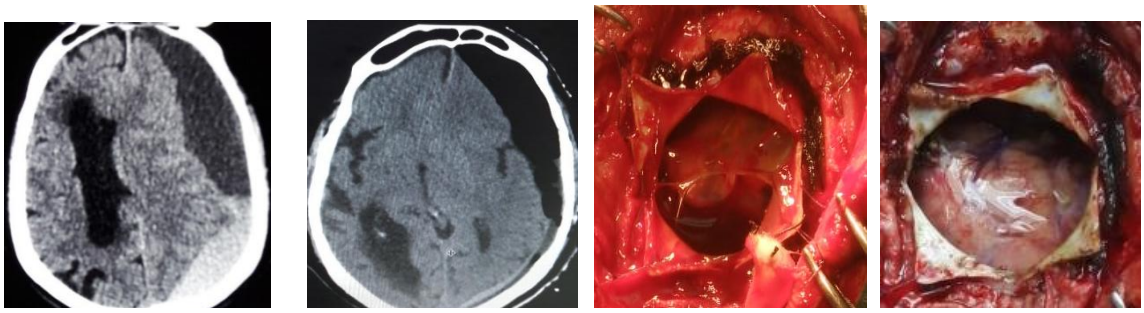
Bilateral Acute on Chronic Subdural Hematoma (Pre-Op And Post-Op Photo)

Case -58. His 55 year male presented with bilateral subdural hematoma.no neurological deficit except headache and disorientation.**patient was discharged with no deficit after surgery.**



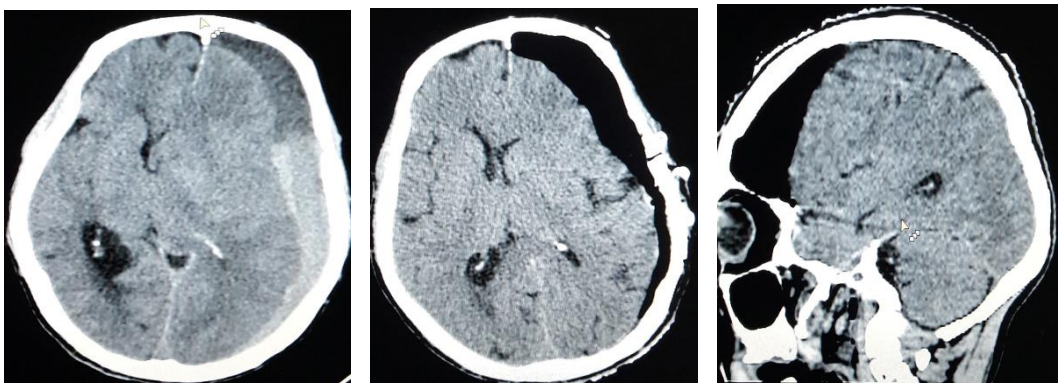
Bilateral Subdural Hematoma (Pre-Op and Post-Op Photo)

Case -59. This 69 year male, weakness right side of limbs, drowsy from 12 hour, sudden bradycardia in emergency history of valvular heart disease (on warfarin). Post op- gcs 15/15, with poor chest and lung consolidation.post-op ct scan showing complete removal of subdural hematoma.**post-op photo of patient discharged with no deficit except right hemiparesis grade 4/5.**



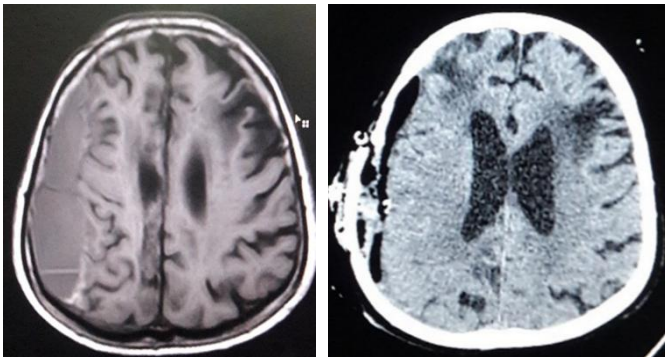
Left Acute on Chronic Subdural Hematoma (Pre-Op And Post-Op Photo)

Case-60. This 65 year male presented with right sided weakness, loss of consciousness and chronic alcoholic smoker. History of trivial trauma 3 month back.after surgery. **Patient was discharged with no deficit except right hemiparesis improved to 4/5.**



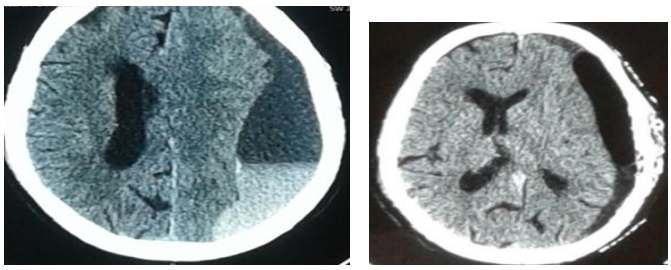
Acute on Chronic Subdural Hematoma (Pre-Op and Post-Op Photo)

Case -61. This 83 year male with bilateral infarct and rt acute on chronic sdh with left hemiparesis- pre-operative mri t1 image showing subdural hematoma.post -operative ct scan showing complete evacuation of subdural hematoma.**patient was discharged with no neurological deficit except left hemiparesis grade 4/5.**



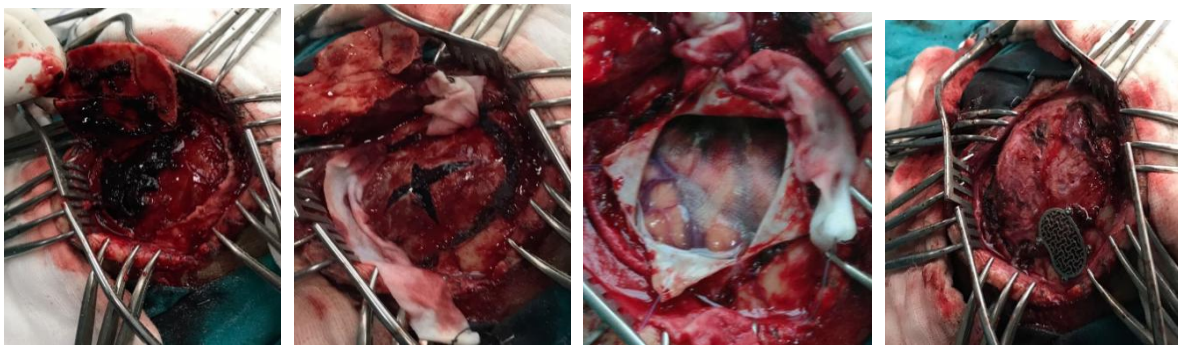
Acute on Chronic Sdh (Pre-Op And Post-Op Photo)

Case -62. This 65 year male patient presented with slurring of speech and right hemiparesis with headache.post-operative ct scan with no neurological deficit.**patient was discharged with no neurological deficit except right hemiparesis grade 3/5.**



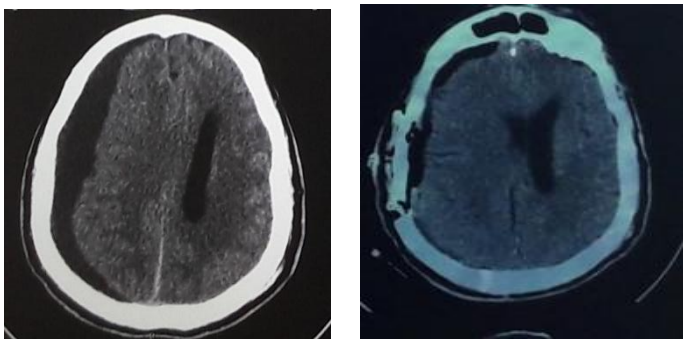
Left Chronic Subdural Hematoma (Pre-Op And Post-Op Photo)

Case -63. This 55 year male presented with fracture left parieto-temporal bone with bilateral subdural hematoma (left more than right) with left parietal. Extradural hematoma with fracture temporal bone.picture before and after removal of temporal bone and opening duramater showing subdural hematoma. **Patient was discharged with no neurological deficit except right hemiparesis grade 4/5.**



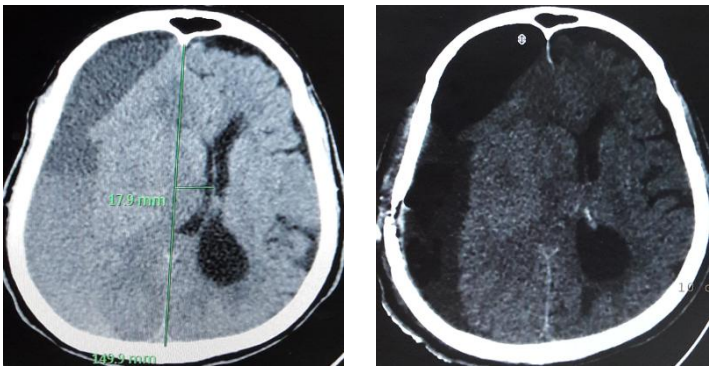
Fracture Left Parieto-Temporal Bone with Bilateral Sdh (Left More than Right) Left Parietal Edh (Pre-Op and Post-Op Photo)

Case -64. This 65 year male was a known case of cad with ptca, with crf, copd, hypokalemia, on clopidogrel and ecosprin from long, presented with sudden onset loss of consciousness and left sided weakness from 7 days.**patient was discharged with no neurological deficit except left hemiparesis grade 3/5.**



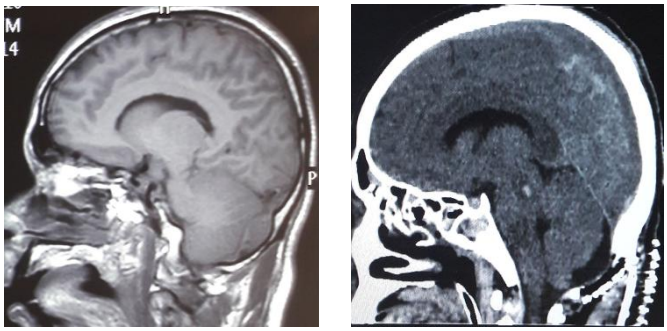
Post Traumatic Right Subdural Hematoma (Pre-Op And Post-Op Photo)

Case -65. This 81 year male, left hemiplegia, initially refused surgery for 5 days, patient kept on ventilator, discharged on tracheostomy.post-op ct scan showing complete evacuation of hematoma. Wound dehiscence repaired by secondary healing.**patient was discharged with no neurological deficit except left hemiparesis grade 3/5 and on tracheostomy.**



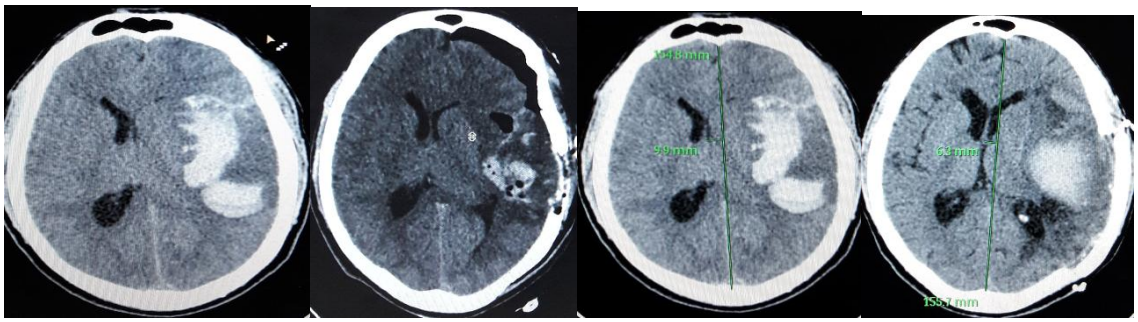
Large Subdural Hematoma (Pre-Op And Post-Op Photo)

Case -66. This 34 year male, history of fall with diffuse axonal injury with pontine bleed. On examination, gcs was e2 v2 m5, mri showing cerebellar extradural hematoma. **Patient was discharged after surgery with neurological deficit with paraparesis grade 2/5.**



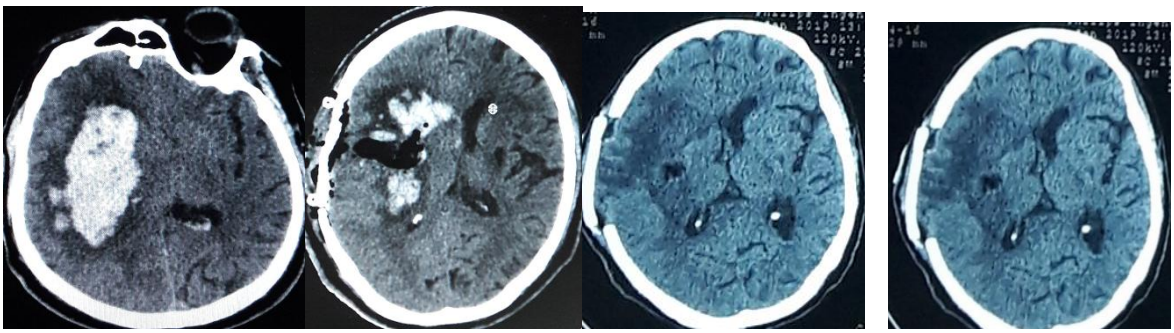
Diffuse Axonal Injury with Cerebellar Extradural Hematoma (Pre-Op And Post-Op Photo)

Case -67. This 38 year male, no history of htn, sudden onset seizure and right sided weakness, loss of consciousness- pre-op ct scan with left parietal bleed.post-op ct scan with near total hematoma evacuation.patient was discharged with right hemiplegia.



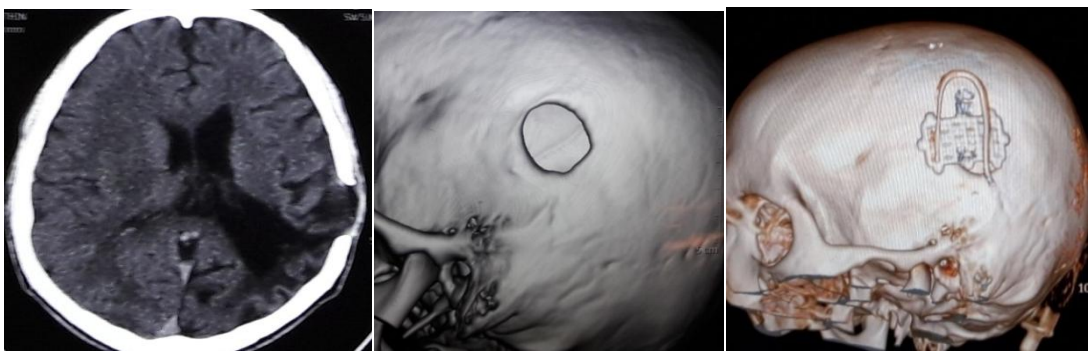
Left Parietal Hematoma (Pre-Op And Post-Op Photo)

Case -68. This 55 year male presented with sudden onset loss of consciousness, left hemiplegia, pupil bilateral reacting, right fronto-temporo-parietal craniotomy and evacuation of hematoma done. On ct scan, there was right fronto- temporo- parietal hematoma.**patient was discharged with left hemiplegia and tracheostomy.**



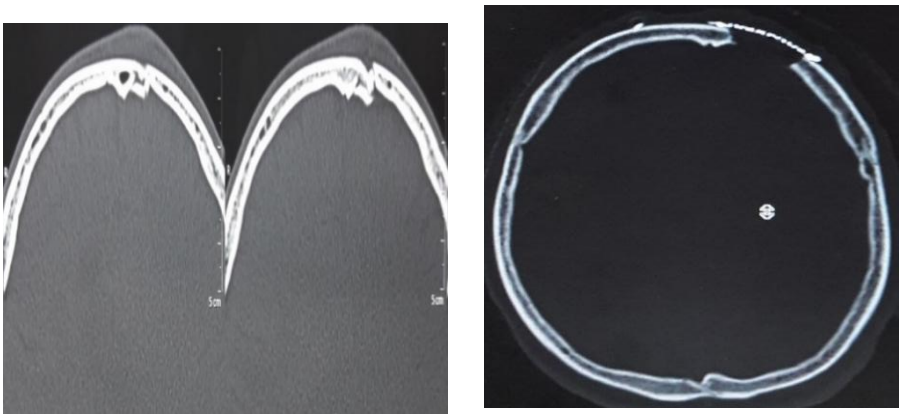
Hypertensive Right Intracranial Bleed (Pre-Op And Post-Op Photo)

Case -69. This 19 year male with right hemiparesis grade 4/5. Left parietal gunshot wound with parietal abscess.operated 4 times outside india.**patient was discharged with no neurological deficit**.



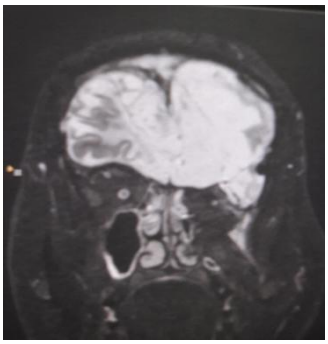
Left Parietal Gun Shot (Pre-Op and Post-Op Photo)

Case -70. This 25 year male presented with road traffic accident and compound depressed fracture with fracture segment impinging on anterior superior sagittal sinus with no neurological deficit.**patient was discharged with no deficit**.



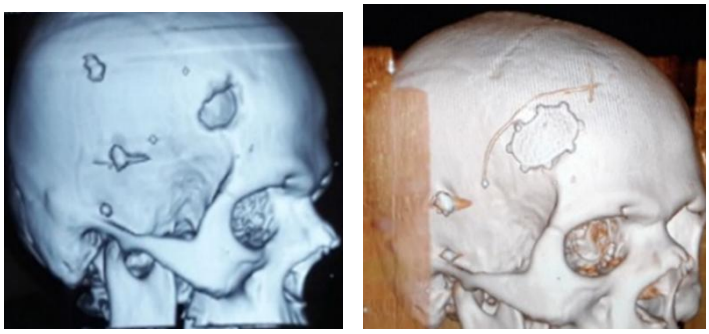
Left Anterior Frontal (Mid- Frontal) Compound Fracture (Pre-Op And Post-Op Photo)

Case -71. This 35 year male presented with frontal gunshot with brain herniation.35 year male presented with gunshot face, left eye enucleated, left basifrontal skull defect and left frontal lobe herniation.left frontal cranioplasty done**.patient was discharged with no neurological deficit.**



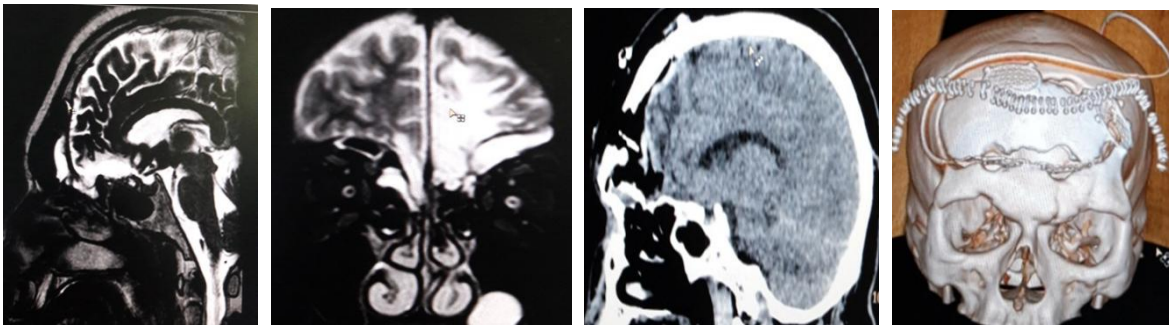
Frontal Gunshot With Brain Herniation (Pre-Op MRI)

Case -72. RT frontal gunshot skull defect.25 year male with no neurological deficit.post –operative ct 3d reconstruction with titanium mesh in situ.**patient was discharged with no neurological deficit**.



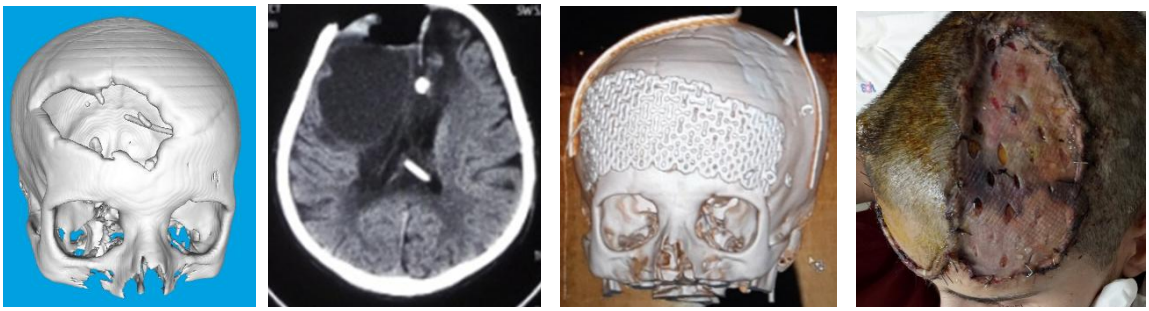
RT Frontal Gunshot Skull Defect (Pre-Op and Post-Op MRI)

Case – 73. CSF rhinorrhea with brain herniation from frontal and ethmoid sinus.this 39 year male presented with alleged history of head injury on 30.8.17 followed by csf leak from nose with frontal and ethmoid defect and brain herniation.post-operative sagittal cut of ct scan showing complete onlay graft till sphenoid sinus.**patient was discharged with no neurological deficit**.



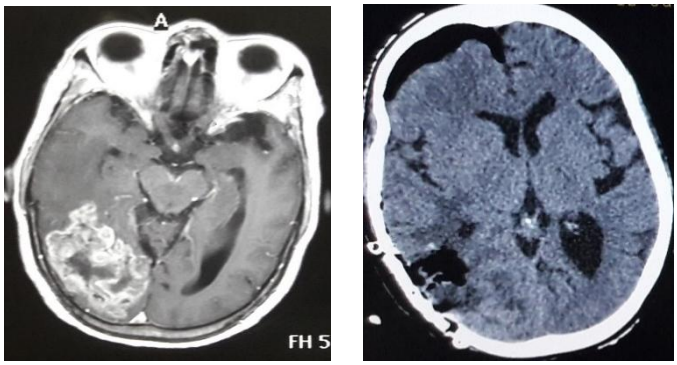
CSF Rhinorrhea with Brain Herniation From Frontal And Ethmoid Sinus (Pre-Op And Postop Mri/Ct)

Case -74. This 19 year male presented with gunshot head 1 year back with 5x5 cm scalp defect right sided, 7x5 cm RT skull defect, 6x5 cm dural defect, brain exposed with pus and dust on exposed brain, 8x6 cm rt frontal lobe cyst.gcs 15/15 with left hemiparesis grade 2/5.**patient was discharged with left hemiparesis 3/5**.



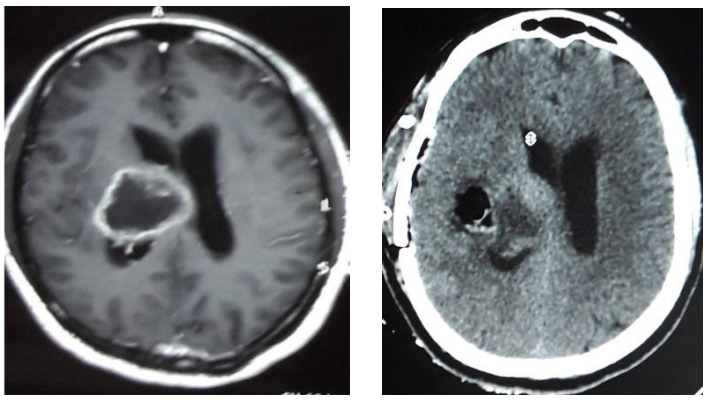
Gun Shot Head (Pre-Op and Post-Op Photo)

Case -75. This 65 year female presented with seizures, left sided weakness, left homonymous hemianopia.right 2 ft finger counting, left 4 ft finger counting.**patient was discharged with no neurological deficit except left hemiparesis 3/5**.



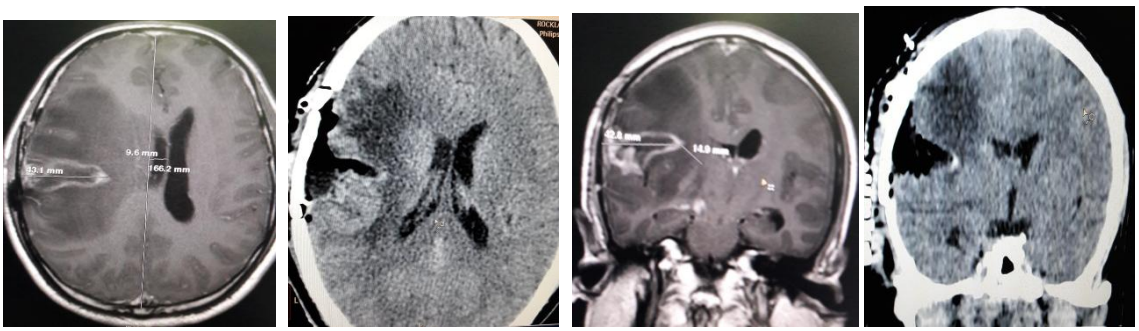
Right Occipital High-Grade Mass (Pre-Op and Post-Op Photo)

Case -76. This 41 year male presented with left hemiparesis 2/5 from last 15 days.patient was discharged with left hemiplegia.



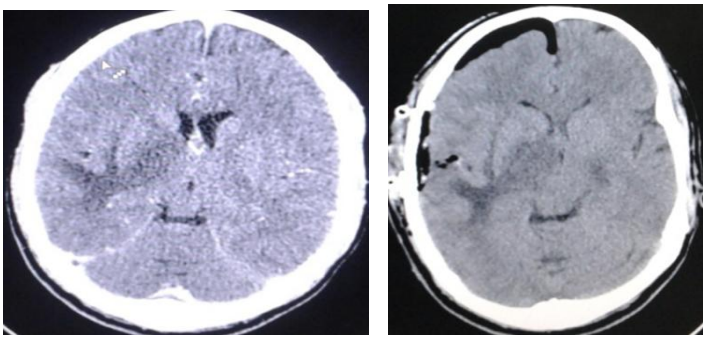
Right Thalamic Glioma (Pre-Op And Post-Op Ct)

Case -77. This 34 year male presented with left sided weakness and headache from last 6 month with visual field defect.post-operative ct scan showing complete excision of tumour**.patient was discharged with no neurological deficit except field defect.**



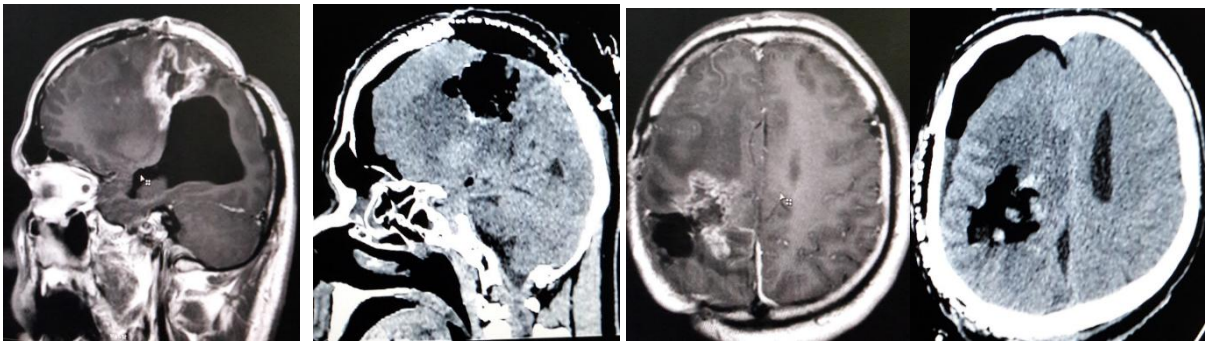
Intracranial Mass (Pre-Op and Post-Op Ct)

Case -78. This 35-year-old male presented sudden onset right vision loss. On examination, gcs 15/15, right vision pl/pr absent, left vision –tubular field, color vision normal.post-operative ct scan showing biopsy site of optic radiation.**patient with discharged with left hemiparesis grade 4/5.**



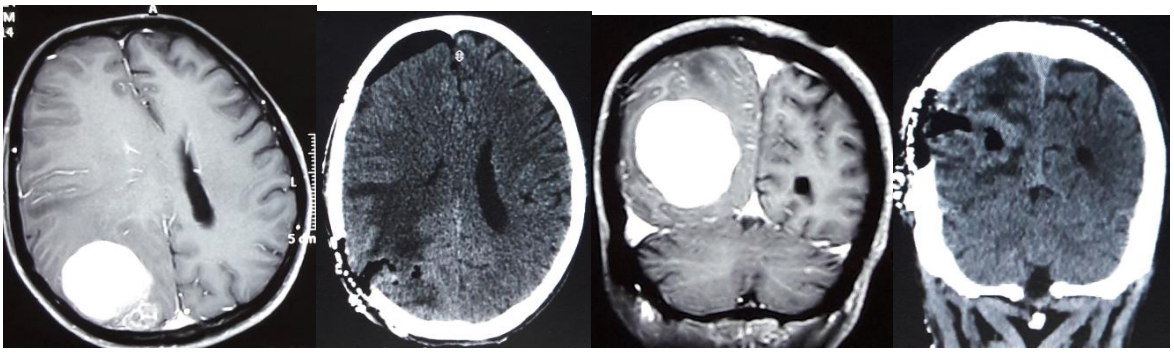
Right Temporal, Optic Radiation, Optic Chiasm, Optic Tract Mass (Pre-Op And Post Op Ct)

Case -79. Recurrent astrocytoma, patient from kajakistan, operated 4 times in his country for same problem, radiotherapy given 2 times in past, chemotherapy given in his country, admitted with skin loss, exposed frontal bone, left hemiparesis and right fronto -parietal bone defect. **Patient was discharged with left hemiparesis grade 3/5 in upper limb.**



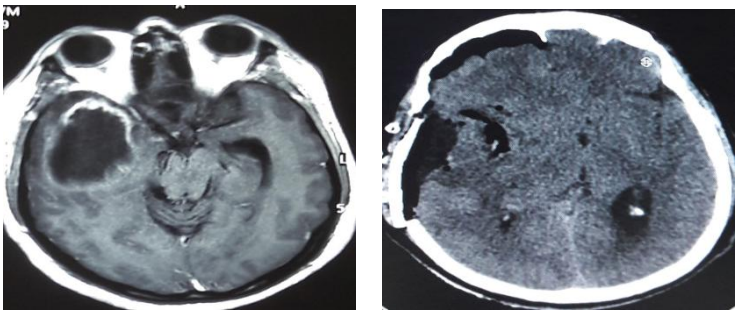
Recurrent Astrocytoma (Pre-Op And Post-Op Ct)

Case -80. This 65 year male presented with headache, vomiting and left decreased vision, left sided weakness, left homonymous hemianopia.**patient was discharged with no neurological deficit except left hemiparesis grade 4/5.**



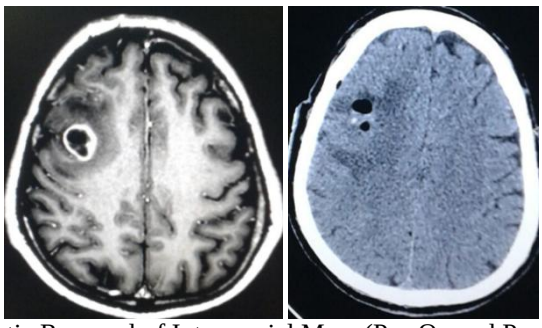
Right Parieto-Occipital Mass (Pre-Op and Post Op Ct)

Case -81. This 55 year with loss of consciousness, seizures, vomiting, left hemiparesis grade 1/5, left vii paresis.mri showing right temporal mass.**patient was discharged with no neurological deficit.**



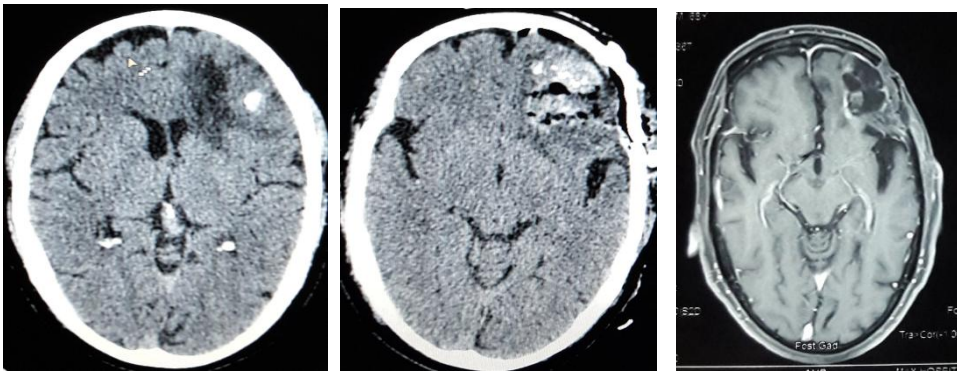
Right Temporal Glioma (Pre-Op and Post Ct)

Case- 82. This 55 year male presented with seizure and left hemiparesis. Stereotactic removal of intracranial right parietal mass.**patient was discharged with no neurological deficit.**



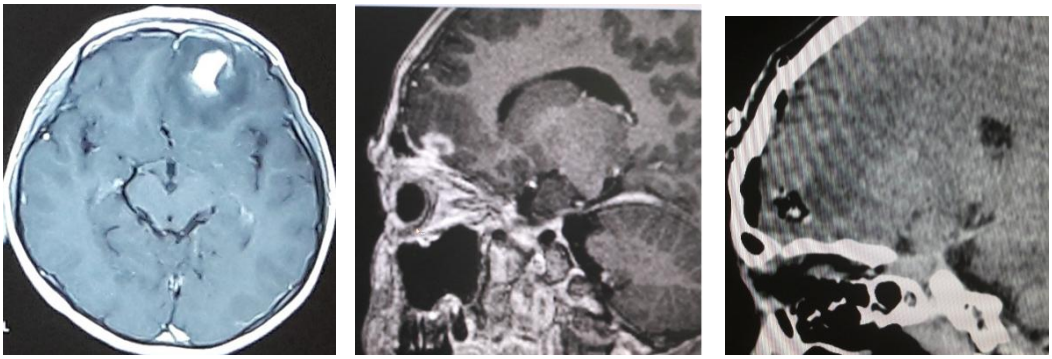
Stereotactic Removal of Intracranial Mass (Pre-Op and Post-Op Ct)

Case -83. This 65 year male presented with headache and no deficit. On examination, there was no deficit and ct scan shows lt frontal mass.**patient was discharged with no neurological deficit.**



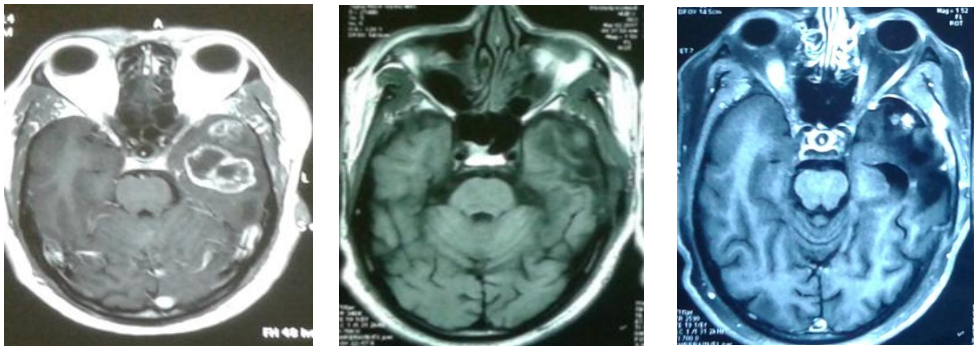
Left Frontal Mass With Calcification (Pre-Op And Post-Op Photo)

Case -84. This 14 year male with history of head injury one and half year back, 4 episodes of seizures in 1 month, mri reported high grade glioma in afghanistan, but i am not convinced, i advised to wait, but his father wants to operate for excision and biopsy.**patient was discharged after surgery with no neurological deficit.**



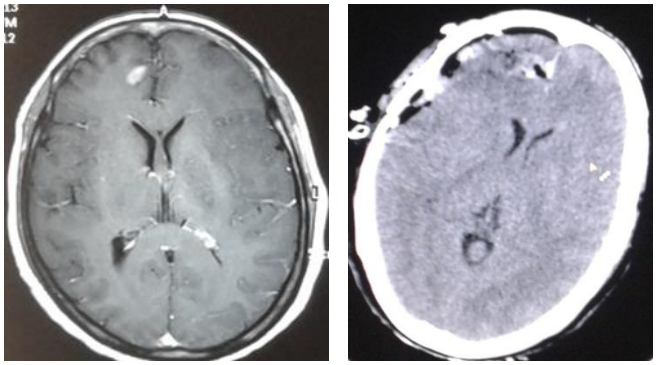
Left Frontal Glioma (Pre-Op and Post-Op Ct)

Case -85. This 45 year male presented with sudden onset seizure, associated with right sided weakness and dysphasia, 100 percent 3 year survival after radio and chemothrrapy. Post-operative mri after 3 months of surgery.**patient was discharged with mild neurological deficit but after 6 month there was no neurological deficit**.



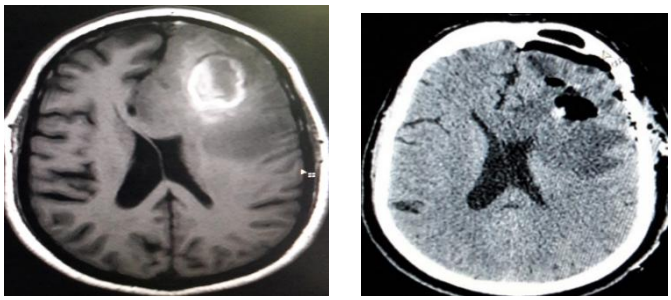
Left Temporal GBM (Who Garde Iv)-Pre-Op (Pre-Op And Post-Op MRI)

Case -86. This patient presented with right frontal mass and seizure. Lesion was located without the help of stereotaxy, neuronavigation.**patient was discharged with no neurological deficit.**



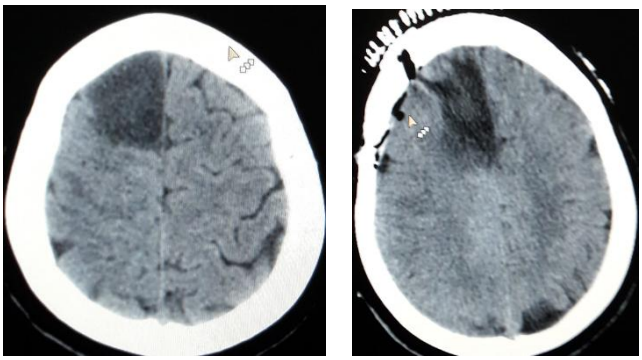
Right Frontal Mass (Pre-Op and Post-Op Ct)

Case -87. Operated left cerebellar mass 2 years back with left frontal mass.this 55 year male presented with vomiting, seizures and vertigo.post-op ct scan shows complete excision of tumour.**patient was discharged with no neurological deficit**.



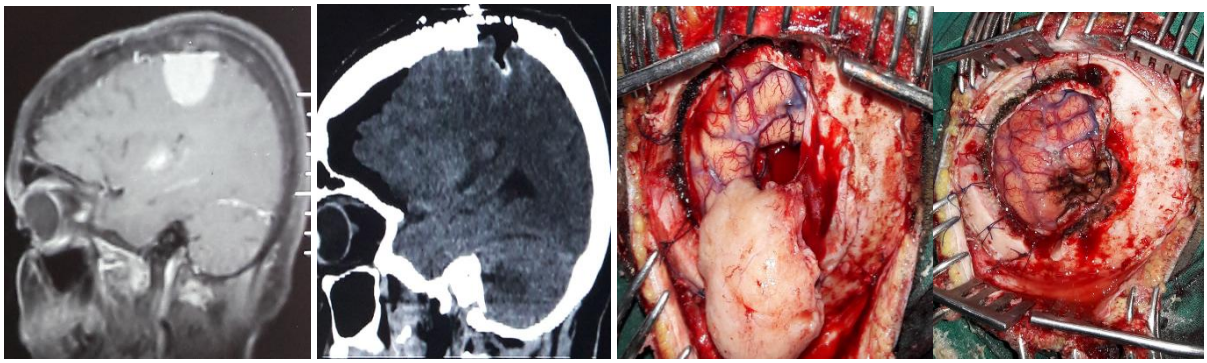
Operated Left Cerebellar Mass 2 Years Back With Left Frontal Mass (Pre-Op And Post-Op Photo)

Case -88. This 52 year female presented with seizures from last 3 year. She has a history of road traffic accident with head injury 2 years back.on examination, she has no deficit. Post-operative ct scan with multiple pieces of biopsy material taken from lesion site.**patient was discharged with no neurological deficit.**



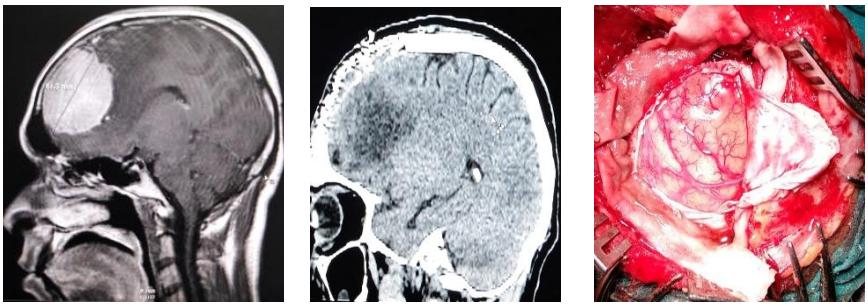
Right Frontal Mass (Pre-Op and Post-Op Ct)

Case -89. This 55 year female presented with right sided weakness, headache, vomiting, seizure, pre-op mri showing meningioma.post-op ct scan showing complete excision of tumour.**patient was discharged with no neurological deficit.**



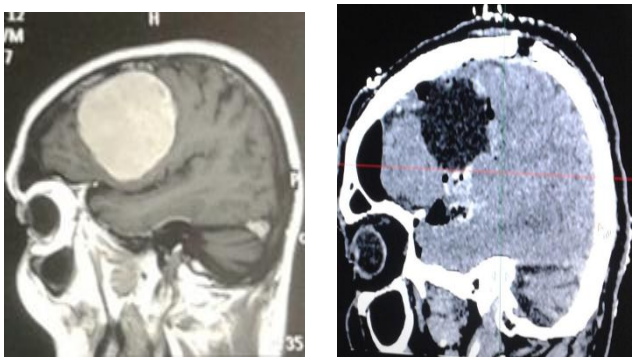
Left Parietal Parasagittal Meningioma (Pre-Op and Post-Op And Intra-Op Photo)

Case-90. This 34 year male presented with 2 episodes of seizure, decreased vision, headache, vomiting, left hemiparesis and loss of consciousness from last 25 days. On sagittal mri, there was large contrast enhancing right frontal meningioma.post–operative ct scan, there was complete tumour excision.**patient was discharged with no fresh neurological deficit.**



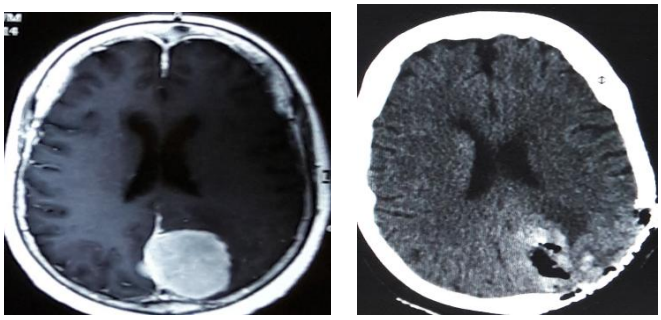
Right Frontal Meningioma (Pre-Op, Intra-Op And Post-Op Photo)

Case -91. Intracranial meningioma being treated by quacks for infarct seeing plain mri. On admission, gcs 15/15 with altered sensorium.post operative ct scan with no residual mass.**patient was discharged with mild neurological deficit, which improved within 3 months.**



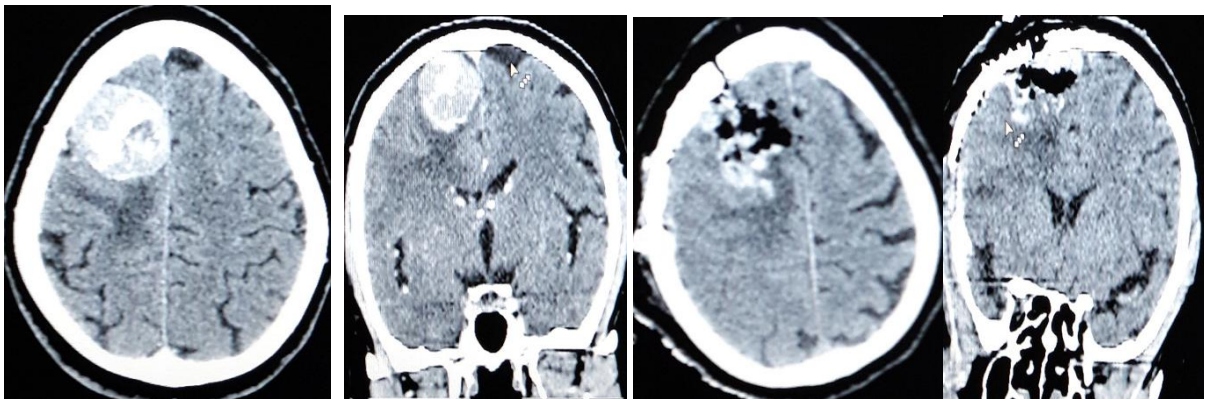
Intracranial Meningioma (Pre-Op and Post-Op Ct)

Case -92. This 70 year female, presented with seizures with right sided weakness. Axial contrast mri shows left occipital falx meningioma. **Patient was discharged with mild neurological deficit which improved within 5 months.**



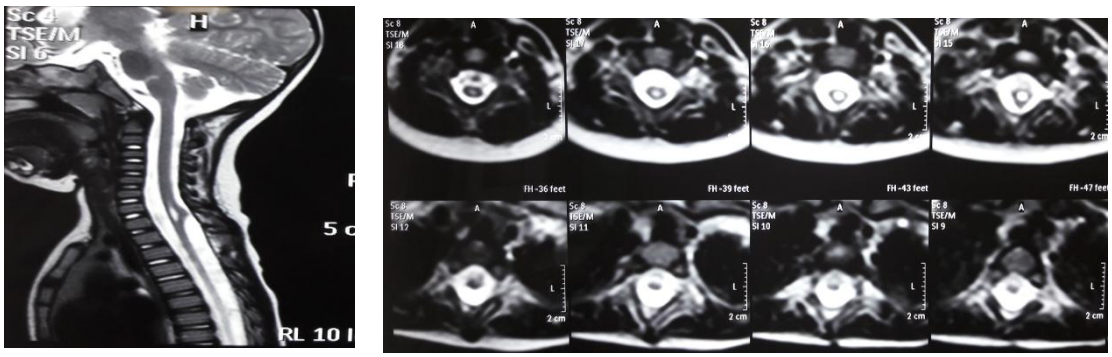
Meningioma (Pre-Op And Post-Op Photo)

Case -93. This 42 year female presented with headache, left hemiparesis and blurring of vision.**patient was discharged with no neurological deficit.**



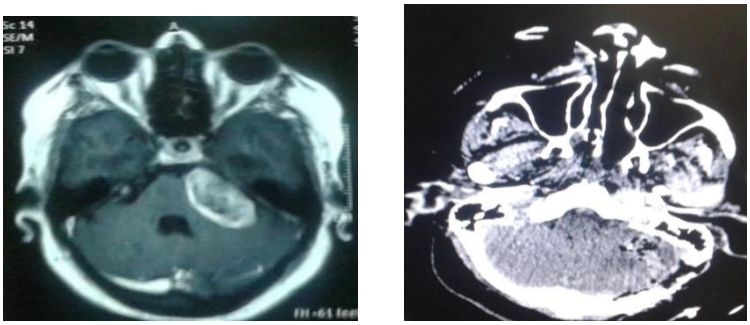
Meningioma (Pre-Op and Post-Op Photo)

Case -94. This one and half year female, full term normal delivery, discharging sinus since birth, walk with support, normal cry. Anterior fontanelle open. Sagittal mri-tethered cord with syrinx.**patient was discharged with no neurological deficit.**



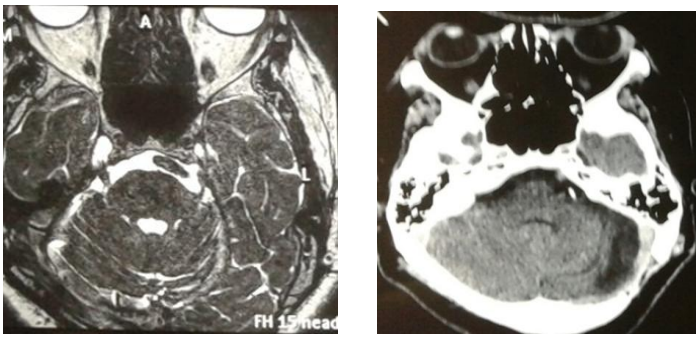
Spinal Dysraphism with Diastometomyelia with Dorsal Dermal Sinus Tract (Pre-Op MRI)

Case -95. This 55 year female presented with left sided hearing deficit from last 6 month ,sudden onset weakness in lower limb from last 3 days ,loss of consciousness from last 24 hour.on mri , there is left c-p angle schwannoma with hydrocephalus.on admission, right frontal external ventricular drainage done,on 2nd day, left retromastoid craniectomy and tumour decompression done.**patient died due to pulmonary embolism.**



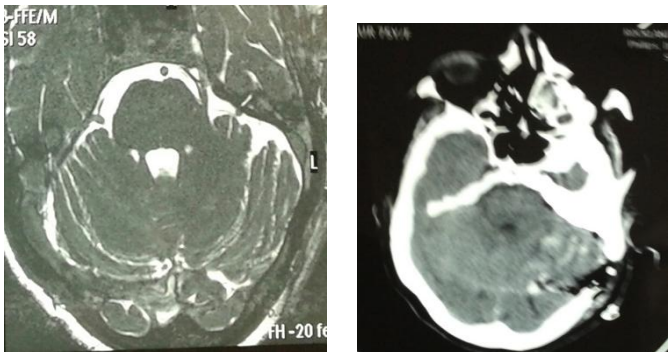
Left Cerebellopontine Angle Schwannoma (Pre-Op and Post-Op Ct)

Case -96. This 48 year male with left trigeminal neuralgia presented with numbness and tingling left face on eating, brushing and shaving.on mri, root entry zone of left fifth nerve is being compressed by a branch of basilar artery (vertebral artery). **Patient was discharged with no neurological defficit**.



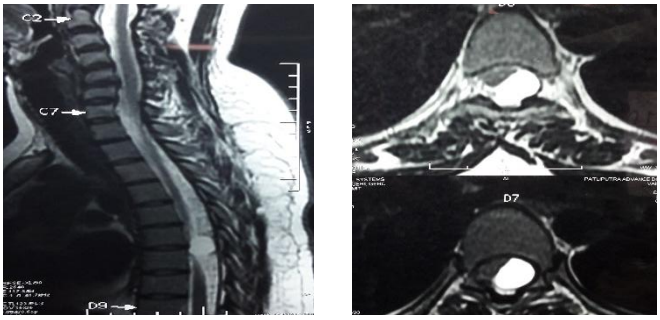
Left Trigeminal Neuralgia (Pre-Op and Post-Op Photo)

Case -97. This 60 year female patient was suffering from numbness and tingling on eating and brushing. Mri showing abnormal vascular loop pressing rez of vth nerve. Patient suffered injury to left non-dominant vertebral artery while exposing c1 and post operative csf leak managed conservatively. **Patient was discharged with no neurological deficit**



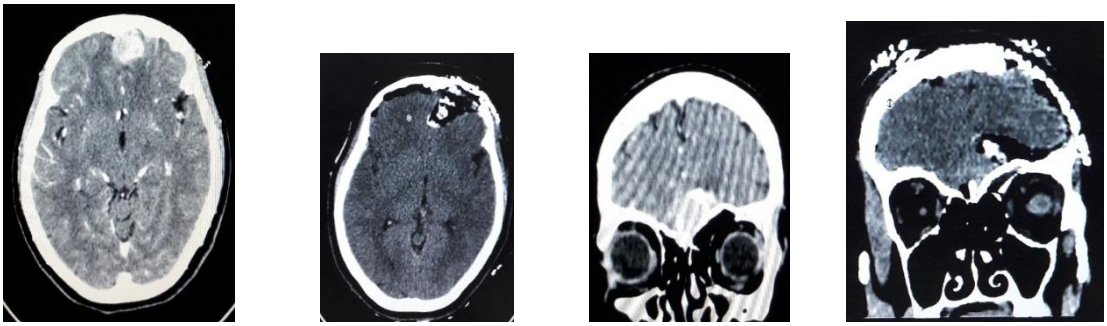
Left Trigeminal Neuralgia (Pre-Op and Post-Op Photo)

Case -98. This 20 year female presented with numbness in lower limb and back pain.on t2 sagittal mri, showing d6/d7 idem arachnoid cyst**. Patient was discharged with no neurological deficit**.



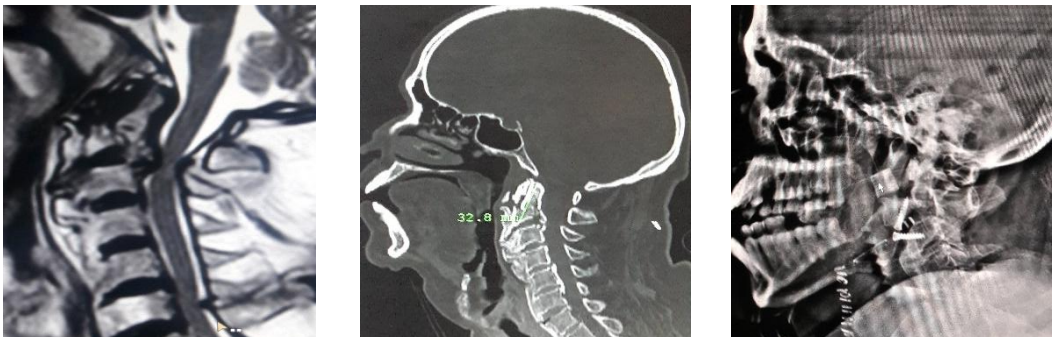
D6/D7 Intradural Extramedullary Mass (Pre-Op Mri)

Case -99. This 55 year female presented with headache and decreased sense of smell.on preop axial ct scan there was meningioma.patient **was discharged with no neurological deficit.**



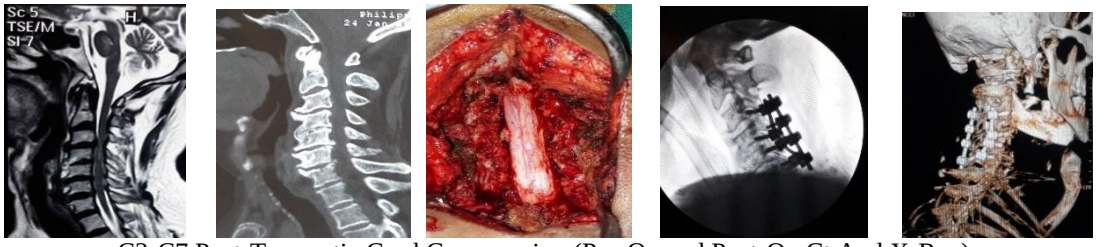
Left Frontal Olfactory Groove Meningioma (Pre-Op and Post-Op Ct)

Case -100. This 64 year male presented with posttraumatic c2 fracture with quadriparesis with dm with difficulty in deglutition due to ossification of longus colli and anterior longitudinal ligament. Pre-op ct scan showing ossification of posterior longitudinal ligament and longus colli with fracture of c2. Patient **was discharged on tracheostomy and ambulatory on RT feed.**



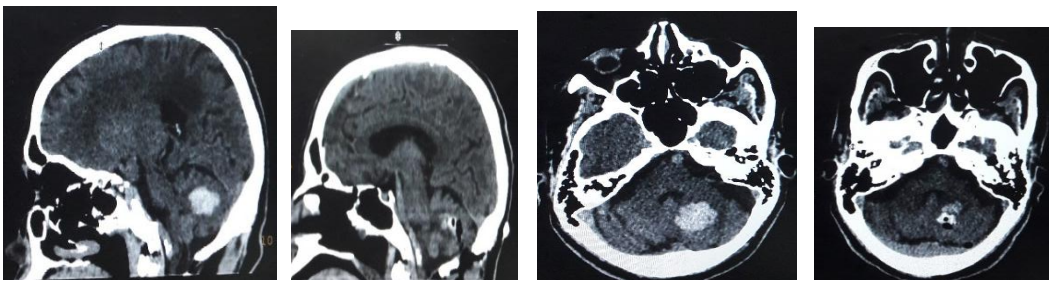
Post –Traumatic C2 Fracture (Pre-Op and Post-Op X-Ray)

Case -101. This 65 year male presented with sudden onset weakness in all four limbs, bladder and bowel involved, breathing difficulty following a history of fall. On examination, there was quadriparesis with power grade 3/5.**patient was discharged with power grade 3/5.**



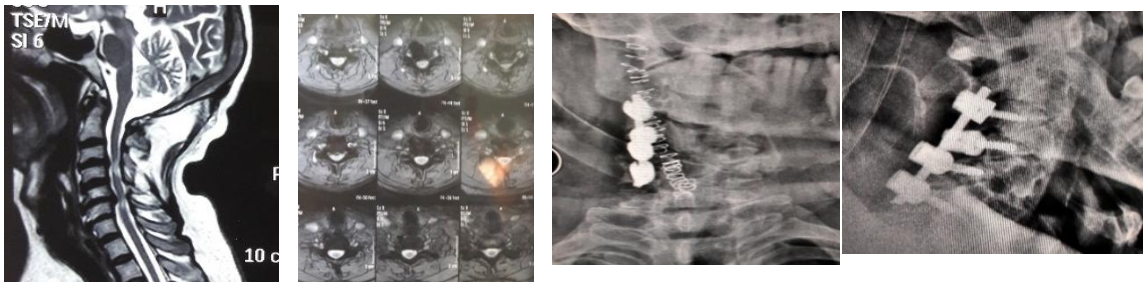
C3-C7 Post-Traumatic Cord Compression (Pre-Op and Post-Op Ct And X-Ray)

Case -102. This 72 year male presented with sudden onset ataxia while landing on indian airport from u.s.a. on ct scan, there was left cerebellar hematoma with d.m and htn. **Patient was discharged after craniectomy with no neurological deficit.**



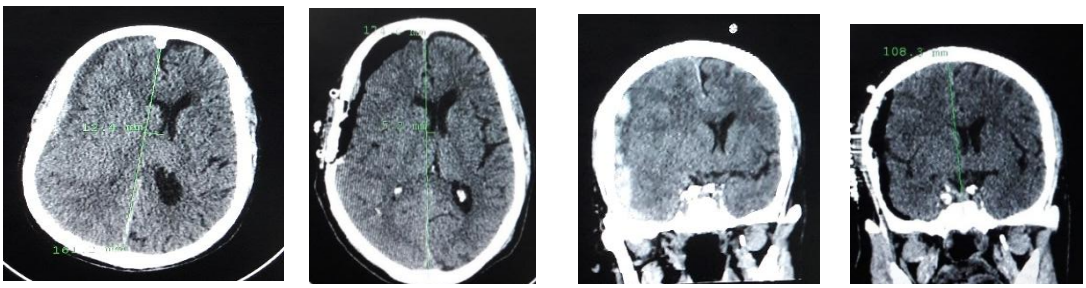
Cerebellar Hematoma (Pre-Op and Post-Op Ct)

Case -103. This 58 year male presented as a known case of seizure and multiple neurocysticercosis with weakness in all 4 limbs, hand grip weak, with abdominal tightness and numbness and tingling in all four limbs. **Patient was discharged ambulatory.**



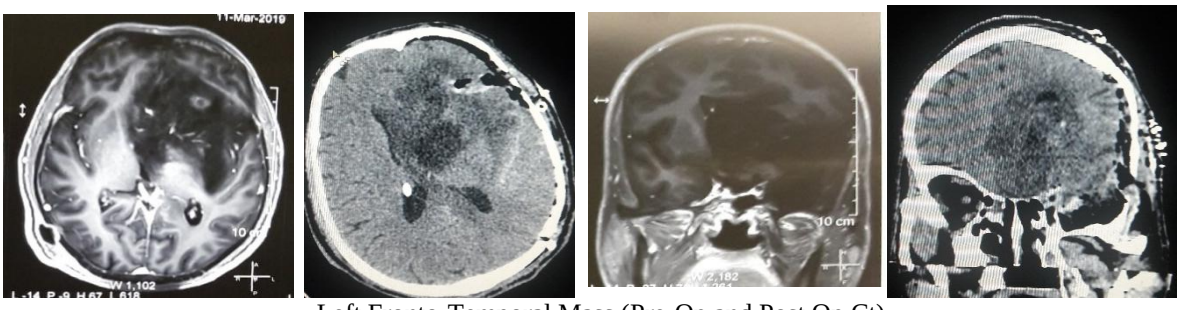
C3 To C7 Myelomalacia (Pre-Op MRI And Post-Op X-Ray)

Case -104. This 65 year male presented as a case of sudden onset left sided weakness with htn and dm and on ecosprin. **Patient was discharged with no neurological deficit after craniotomy.**



Right Subdural Hematoma (Pre-Op and Post-Op Ct)

Case -105. This 45 year male presented with seizure and right sided weakness from last 5 month.on contrast mri, there was left fronto-temporal mass with extension to basal ganglia with right vp shunt operated in pakistan.**patient was discharged with no neurological deficit except right hemiparesis grade 4/5.**



Left Fronto-Temporal Mass (Pre-Op and Post Op Ct)

II. Flow Chart

COMPLICATION	INFECTION/ MENINGITIS	IMPLANT INFECTION	IMPLANT DISLOCATION	MAJOR VESSEL INJURY BUT CONTROLLED	WOUND DEHISCENCE	CSF LEAK	REDO SURGERY	CORD INJURY/BRAIN INJURY	COLLECTION OF HEMATOMAS	NEW NEUROLOGICAL DEFICIT	DEATH
1.anterior cervical	-	-	-	-	-	-	-	-	-	-	-
2.anterior cervical	-	-	-	-	-	-	-	-	-	-	-
3. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
4. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
5. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
6. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
7. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
8.anterior cervical	-	-	-	-	-	-	-	-	-	-	-
9.anterior cervical	-	-	-	-	-	-	-	-	-	-	-
10. Posterior cervical	-	-	-	-	-	-	-	-	-	-	-
11. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
12. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
13. Anterior cervical	-	-	-	-	-	-	-	-	-	-	Yes (no respiratory effort before surgery)
14.anterior cervical	-	-	-	-	-	-	-	-	-	-	-
15. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
16. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
17. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
18. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
19. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
20. Anterior cervical	-	-	-	-	-	-	-	-	-	-	-
21. Posterior cervical	-	-	-	-	-	-	-	-	-	-	-

22. Both anterior and posterior cervical	-	-	-	-	-	-	-	-	-	-	-
23. Posterior cervical	-	-	-	-	-	-	-	-	-	-	-
24. Posterior cervical -	-	-	-	-	-	-	-	-	-	-	-
25. Posterior cervical-	-	-	-	-	-	-	Yes (2 level laminectomy extended due to collection of extradural hematoma)	-	-	-	-
26. Posterior and anterior cervical	-	-	-	-	-	-	-	-	-	-	-
27. Cranio vertebral junction	-	-	-	Yes (non dominant vertebral artery injury iccured but controlled during surgery)	-	-	-	-	-	-	-
28. Dorsal spinal tumour	-	-	-	-	-	-	-	-	-	-	-
29. Dorsal canal stenosis	-	-	-	-	-	-	-	-	-	-	-
30. Dorsal spinal tumour	-	-	-	-	-	-	-	-	-	-	-
31. Dorsal spine pott's	-	-	-	-	-	-	-	-	-	-	-
32. Dorsal spinal tumour	-	-	-	-	-	-	-	-	-	-	-
33. Dorsal spinal tumour	-	-	-	-	-	-	-	-	-	-	-
34. Dorsal pott's spine	-	-	-	-	-	-	-	-	-	-	-
35. Dorsal spinal tumour	-	-	-	-	-	-	-	-	-	-	-
36. Lumbar fracture	-	-	-	-	-	-	-	-	-	-	-
37. Lumbar canal stenosis	-	-	-	-	-	-	-	-	-	-	-
38.lumbar disc	-	-	-	-	-	-	-	-	-	-	-

39. Lumbo sacral spondylolisthesis	-	-	-	-	-	-	-	-	-	-	-
40. Lumbar cal stenosis	-	-	-	-	-	-	-	-	-	-	-
41. Sellar mass	-	-	-	-	-	-	-	-	-	-	Yes (patient suffered myocardial infarction due to old age)
42. Sellar mass	-	-	-	-	-	-	-	-	-	-	-
43. Sellar mass	-	-	-	-	-	-	-	-	-	-	-
44. Sellar mass with pregnancy	-	-	-	-	-	-	-	-	-	-	-
45. Sellar mass	-	-	-	-	-	-	-	-	-	-	-
46. Clival chordoma	-	-	-	-	-	-	-	-	-	-	-
47. Codman hakim shunt	-	-	-	-	-	-	-	-	-	-	-
48. Endoscopic third ventriculostomy	-	-	-	-	-	-	-	-	-	-	-
49. Endoscopic third ventriculostomy	-	-	-	-	-	-	-	-	-	-	Yes (but died due to carcinoma lung with metastasis)
50.endoscopic third ventriculostomy	-	-	-	Yes (ch0roid plexus injury occurred but get controlled)	-	-	-	-	-	-	-
51. Anterior communicating artery aneurysm	-	-	-	-	-	-	-	-	-	-	-
52. Anterior communicating artery aneurysm	-	-	-	-	-	-	-	-	-	-	-
53. Internal	-	-	-	Yes (jugular	-	-	-	-	-	-	-

carotid aneurysm				vein injury injury occurred while taking neck control but successfully repaired							
54. Multiple intracranial bleed	-	-	-	-	-	-	-	-	-	-	-
55. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	-
56 extradural hematoma	-	-	-	-	-	-	-	-	-	-	-
57. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	-
58. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	-
59. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	-
60. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	-
61. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	-
62. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	
63. Subdural hematoma and extradural hematoma	-	-	-	-	-	-	-	-	-	-	
64. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	
65. Subdural hematoma	-	-	-	-	Wound dehiscence occurred but undergone secondary healing	-	-	-	-	-	
66. Diffuse axonal injury with cerebellar hematoma	-	-	-	-	-	-	-	-	-	-	
67. Intraparenchymal bleed	-	-	-	-	-	-	-	-	-	-	-
68. Intraparen	-	-	-	-	-	-	-	-	-	-	-

chymal bleed											
69. Gun shot head	-	-	-	-	-	-	-	-	-	-	-
70. Mid frontal compound depressed fracture	-	-	-	-	-	-	-	-	-	-	-
71. Frontal gunshot with brain herniation	-	-	-	-	-	-	-	-	-	-	-
72. Frontal gun shot	-	-	-	-	-	-	-	-	-	-	-
73. Csf rhinorrhea	-	-	-	-	-	-	-	-	-	-	-
74. Gun shot head	-	-	-	-	-	-	-	-	-	-	-
75. Right occipital mass	-	-	-	-	-	-	-	-	-	-	-
76. Thalamic glioma	-	-	-	-	-	-	-	-	-	-	-
77. Parietal mass	-	-	-	-	-	-	-	-	-	-	
78.temporal mass	-	-	-	-	-	-	-	-	-	-	-
79. Parieto-occipital mass	-	-	-	-	-	-	-	-	-	-	-
80. Parieto-occipital mass	-	-	-	-	-	-	-	-	-	-	-
81. Temporal mass	-	-	-	-	-	-	-	-	-	-	-
82. Frontal mass	-	-	-	-	-	-	-	-	-	-	-
83. Frontal mass	-	-	-	-	-	-	-	-	-	-	-
84. Frontal mass	-	-	-	-	-	-	-	-	-	-	-
85. Temporal mass	-	-	-	-	-	-	-	-	-	-	-
86. Frontal mass	-	-	-	-	-	-	-	-	-	-	-
87. Frontal mass	-	-	-	-	-	-	-	-	-	-	-
88. Frontal mass	-	-	-	-	-	-	-	-	-	-	-
89. Parietal meningioma	-	-	-	-	-	-	-	-	-	-	-
90. Frontal meningioma	-	-	-	-	-	-	-	-	-	-	-
91.	-	-	-	-	-	-	-	-	-	-	-

Parietal meningioma											
92. Occipital meningioma	-	-	-	-	-	-	-	-	-	-	-
93. Frontal meningioma	-	-	-	-	-	-	-	-	-	-	-
94. Spinal dysraphism	-	-	-	-	-	-	-	-	-	-	-
95. Cerebello-pontine angle tumour	-	-	-	-	-	-	-	-	-	-	Yes (died due to pulmonary embolism)
96. Trigeminal neuralgia	-	-	-	Petrosal vein injury but controlled	-	-	-	-	-	-	-
97. Trigeminal neuralgia	-	-	-	Non-dominant vertebral artery injury occurred but controlled	-	-	-	-	-	-	-
98. Dorsal spinal tumour	-	-	-	-	-	-	-	-	-	-	-
99.left frontal olfactory groove meningioma	-	-	-	-	-	-	-	-	-	-	-
100. Post-traumatic c2 cervical fracture-	Infection over and around tracheostomy site and along anterior cervical wound	-	-	-	-	-	-	-	-	-	-
101. Posterior cervical fixation	-	-	-	-	-	-	-	-	-	-	-
102. Cerebellar hematoma	-	-	-	-	-	-	-	-	-	-	-
103. Posterior cervical fixation	-	-	-	-	-	-	-	-	-	-	-
104. Subdural hematoma	-	-	-	-	-	-	-	-	-	-	-
105. Left fronto-	-	-	-	-	-	-	-	-	-	-	-

temporal mass											

Chart A-Total Number Of Cases Were 105, Out Of Which Complication Occurred In 8 Patients And Death Occurred In 4 Patients Only

Type of cases	**Number of cases**	**Any complication**	**Death**
Anterior cervical fixation	**20**	**1**	**1**
Posterior cervical fixation	**7**	**1**	**-**
Cranio-vertebral junction mass and fixation	**1**	**1**	**-**
Both anterior and posterior cervical fixation	**2**	**-**	**-**
Dorsal spinal tumour	**6**	**-**	**-**
Dorsal spinal pott's/canal stenosis	**3**	**-**	**-**
Lumbar canal stenosis/fracture	**5**	**-**	**-**
Sellar/clival mass	**6**	**-**	**1**
Codman hakim shunt	**1**	**-**	**-**
Endoscopic third ventriculostomy	**3**	**1**	**1**
Aneurysm	**3**	**1**	**-**
Subdural/extradural/parenchymal hematoma	**17**	**1**	**-**
Gun shot head	**4**	**-**	**-**
Depressed skull fracture/csf leak	**2**	**-**	**-**
Intracranial tumour/mass	**16**	**-**	**1**
Intracranial meningioma	**6**	**-**	**-**
Spinal dysraphism	**1**	**-**	**-**
Trigeminal neuralgia	**2**	**2**	**-**
Total	**105 cases (included in study)**	**8 (complication occurred in 8 patients) =7.6%**	**4 (death occurred in 4 patients) =3.8%**

Chart B- Total Number Of Patients In Which Complication Occurred Were 8 (7.6%) And Death Occurred In 4 Patients Only, Which Accounts To 3.8%.

Type of cases	Any complication	Death
Anterior cervical fixation	1	1
Posterior cervical fixation	1	-
Cranio-vertebral junction mass and fixation	1	-
Both anterior and posterior cervical fixation	-	-
Dorsal spinal tumour	-	-
Dorsal spinal pott's/canal stenosis	-	-
Lumbar canal stenosis/fracture	-	-
Sellar/clival mass	-	1
Codman hakim shunt	-	-
Endoscopic third ventriculostomy	1	1
Aneurysm	1	-
Subdural/extradural/parenchymal hematoma	1	-
Gun shot head	-	-
Depressed skull fracture/csf leak	-	-
Intracranial tumour/mass	-	1
Intracranial meningioma	-	-
Spinal dysraphism	-	-
Trigeminal neuralgia	2	-
Total number of complications	8 (complication occurred in 8 patients out of total 105 patients) =7.6%	4 (death occurred in 4 patients out of total 105 patients) =3.8%

Chart C- Total Number Of Patients In Which Death Occurred Were 4 (3.8%).

Type of cases	**Death**
Anterior cervical fixation	1
Posterior cervical fixation	-
Cranio-vertebral junction mass and fixation	-
Both anterior and posterior cervical fixation	-
Dorsal spinal tumour	-
Dorsal spinal pott's/canal stenosis	-
Lumbar canal stenosis/fracture	-

Sellar/clival mass	1
Codman hakim shunt	-
Endoscopic third ventriculostomy	1
Aneurysm	-
Subdural/extradural/parenchymal hematoma	-
Gun shot head	-
Depressed skull fracture/csf leak	-
Intracranial tumour/mass	1
Intracranial meningioma	-
Spinal dysraphism	-
Trigeminal neuralgia	-
Total number of death out of 105 patients	**4 patients died out of 105 patients=3.8%**

Chart D-Total Number Of Cases With Detailed Description Of Complication And Cause Of Death.

Type of cases	Number of cases	Any complication	Death
Anterior cervical fixation	20	1 (tracheostomy site infection and wound dehiscence in case no.100)	1 (no respiratory effort before surgery in case no 13)
Posterior cervical fixation	7	1 (redosurgery due to extradural hematoma in case no. 25)	-
Cranio-vertebral junction mass and fixation	1	1 (vertebral artery injury occurred but controlled in case no. 27)	-
Both anterior and posterior cervical fixation	2	-	-
Dorsal spinal tumour	6	-	-
Dorsal spinal pott's/canal stenosis	3	-	-
Lumbar canal stenosis/fracture	5	-	-
Sellar/clival mass	6	-	1 (myocardial infarction in case no.41)
Codman hakim shunt	1	-	-
Endoscopic third ventriculostomy	3	1(choroid plexus injury occurred but controlled in case no. 50)	1 (due to carcinoma lung with metastasis in case no. 49)
Aneurysm	3	1 (jugular vein injury occurred during neck taking control but controlled in case no.53)	-
Subdural/extradural/parenchymal hematoma	17	1 (wound dehiscence due old age thin scalp skin and finger nail bite in case no 65)	-
Gun shot head	4	-	-
Depressed skull fracture/csf leak	2	-	-
Intracranial tumour/mass	16	-	1(patient of cerebello-pontine angle tumour died due to pulmonary embolism in case no.95)
Intracranial meningioma	6	-	-
Spinal dysraphism	1	-	-
Trigeminal neuralgia	2	2 (petrosal vein injury in one patient and non-dominant vertebral artery injury occurred in another but both controlled in case no. 96,97)	-
Total	105	8(7.6%)	4(3.8%)

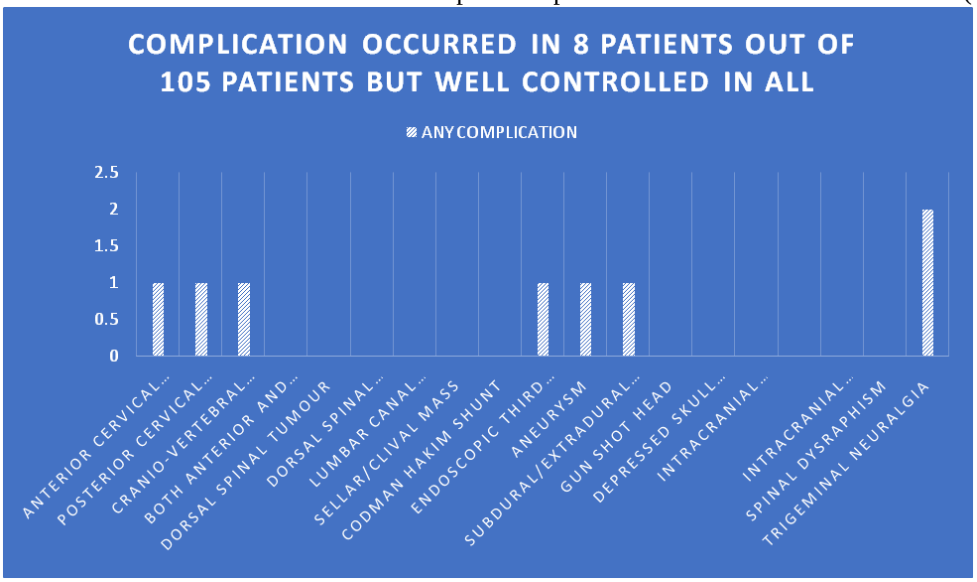
Chart E- Total Number of Patients with Complication and Those with Death and Their Reasoning

Type of cases	Infection	Implant infection	Implant dislocation	Major vessel injury but controlled	Wound dehiscence	Redosurgery	Csf leak	Meningitis	Cord injury	Death
20-anterior cervical fixation	1 (tracheostomy site infection and wound dehiscence)									1 (no respiratory effort before surgery)
7-posterior cervical fixation						1 (redosurgery due to extradural hematoma)				
1-cranio-vertebral junction mass and fixation				1 (vertebral artery injury occurred but controlled)						
2-both anterior and posterior cervical fixation										
6-dorsal spinal tumour										
3-dorsal spinal pott's/canal stenosis										
5-lumbar canal stenosis/fracture										
6-sellar/clival mass										1 (myocardial infarction)
1-codman hakim shunt										
3-endoscopic third ventriculostomy				1(choroid plexus injury occurred but controlled)						1 (due to carcinoma lung with metastasis)
3-aneurysm				1 (jugular vein injury injury occurred while taking neck control but successfully repaired)						
17-subdural/extradur					1 (wound					

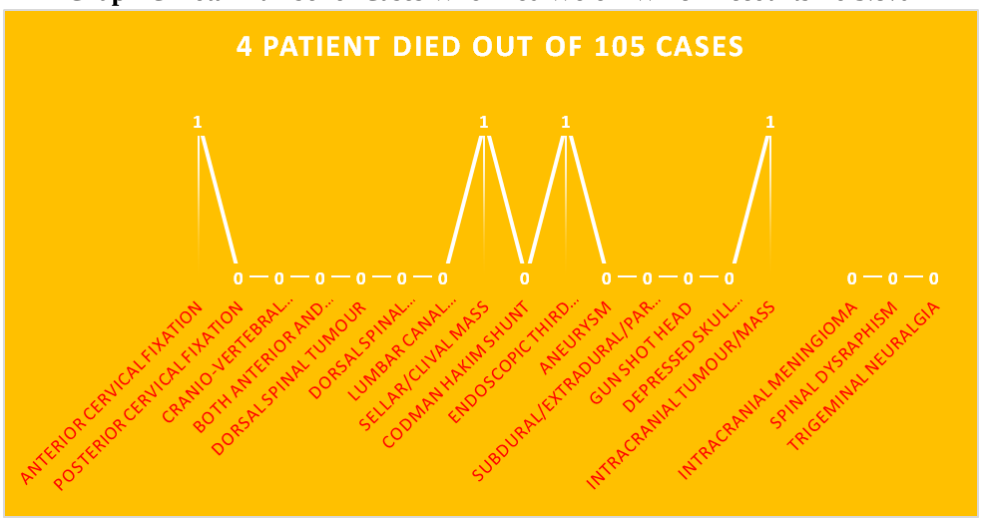
al/parenchymal hematoma					**dehiscence due old age thin scalp skin and finger nail bite)**					
4-gun shot head										
2-depressed skull fracture/csf leak										
16-intracranial tumour/mass										**1(due to pulmonary embolism)**
6-intracranial meningioma										
1-spinal dysraphism										
2-trigeminal neuralgia				**2 (petrosal vein injury in one patient and non-dominant vertebral artery injury occurred in another but both controlled)**						
Total	**1**	**0**	**0**	**5**	**1**	**1**	**0**	**0**	**0**	**4**

Graph A-Total Number Of Cases Were 105

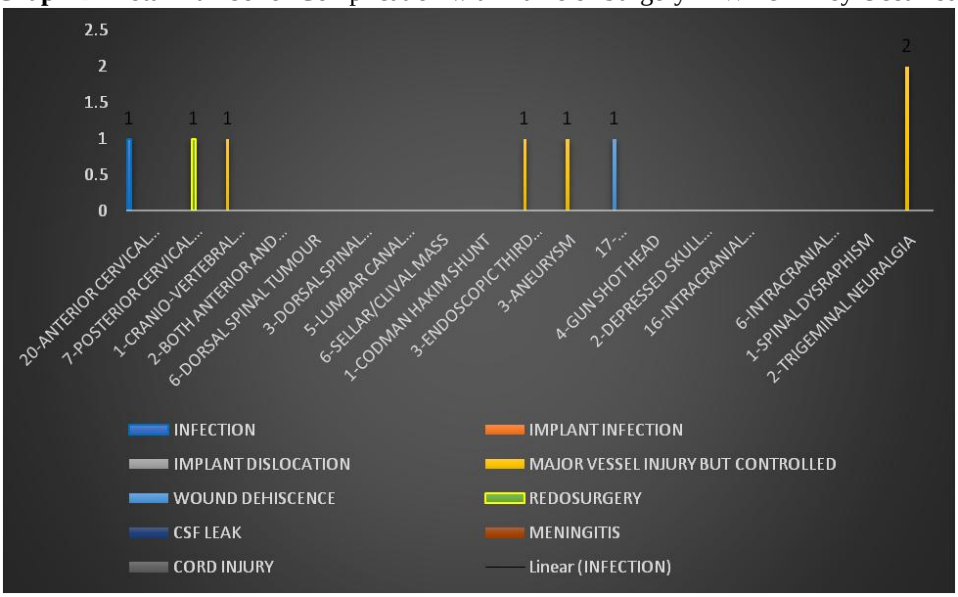
Graph B-Total Number of Patients Who Developed Complication But Well Controlled Were 8 (7.6%)



Graph C-Total Number of Cases Who Died Were 4 Which Accounts To 3.8%



Graph D- Total Number of Complication with Name of Surgery in Which They Occurred



III. Conclusion

- Total number of 105 cases are included in this study.
- Total number of complications were seen in 8 patients, out of total 105 cases, which amounts to approximately 7.6%.
- Total number of death (mortality) were seen in 4 patients, out of total 105 cases, which amounts to approximately 3.8%

  Neurosurgery is 96.2% successfull

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