- TINGY SPINE , BIG CHALLENGES : MANAGING PAEDIATRIC POTTS SPINE WITH KHYPHOTIC GIBBUS

Case presentation

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Professor and Hod

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- A 2 years old female by name, HAZRA Residence of Vijayawada came with complaints of swelling over back of chest region since 2 months with difficulty in standing , sitting and walking as said by her mother.

- History of fever present since 2 months

History of presenting complaints

- Child was apparently normal 2 months back mother noticed fever which is continous in type followed by irritability , refused to walk or stand
- Mother noticed swelling on back region at lower thoracic level which is gradually increasing in size
- Swelling looks normal no redness, no warmth
- hard, diffuse and non tender swelling

- Pain difficult to localize and child cries when lifted and moved
- Night cries present

Past history

- History of contact with active pulmonary tuberculosis patient (father)
- Father history:- father had active infection and was on medication

Birth and developmental history:-

- Term baby with cesarian section delivery
- No delay in mile stones
- No complication during delivery

Nutritional and personal history:-

- Baby is moderately built and nourished
- No signs of malnutrition
- Adequate diet
- Appetite ,bowel and bladder function normal
- Disturbed sleep pattern with irritability and crying episodes

- General examination:-
- Patient is conscious and coherent
- Moderately built and nourished
- No pallor ,icterus ,cyanosis ,clubbing, lymphadenopathy and edema

Systemic examination:-

- Cvs:- s1,s2 heard
- Per abdomen :-soft and Non- tender
- Respiratory system:-bilateral air entry present with no added sounds

Vitals data:-

- Pulse :- 162/min regular normal volume normal character all peripheral pulses felt
- Respiratory rate:- 32/min
- Blood pressure:-120/80 mmhg
- Temperature:-afebrile
- Spo2:- 99% at room air

Local examination

- Patient in supine position hip in neutral , knee in extension , ankle In neutral position

- On inspection:-
- Visible swelling noted over thoracolumbar region
- Visible deformity(khyphotic)
- No external injury
- No discharging sinus and no engorged veins

- On palpation:-
- No local rise of temperature
- Swelling is fixed , non mobile , bony hard

- Movements:-
- Child is moving all the limbs actively

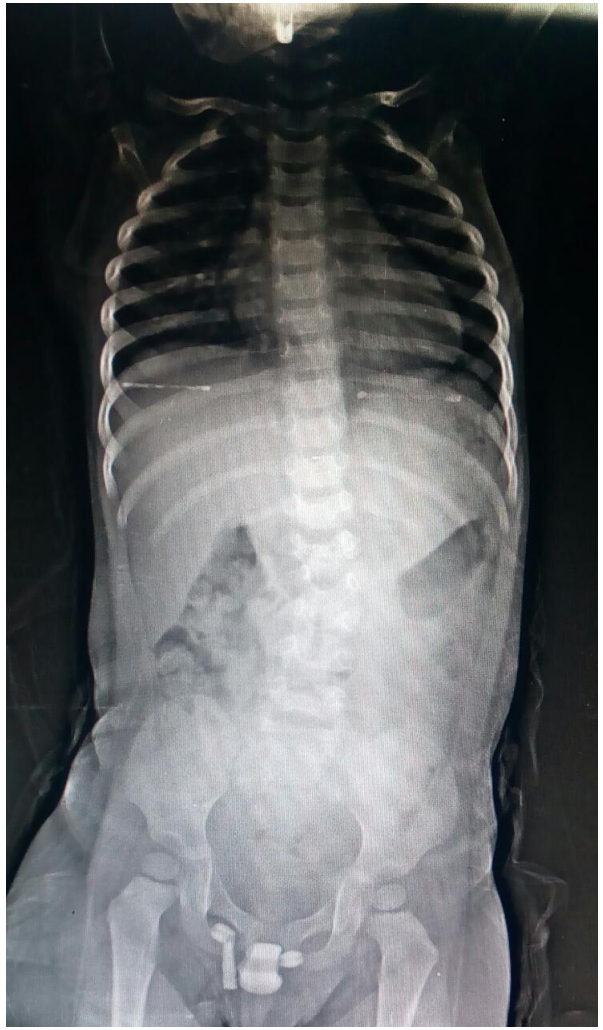
Neurological examination

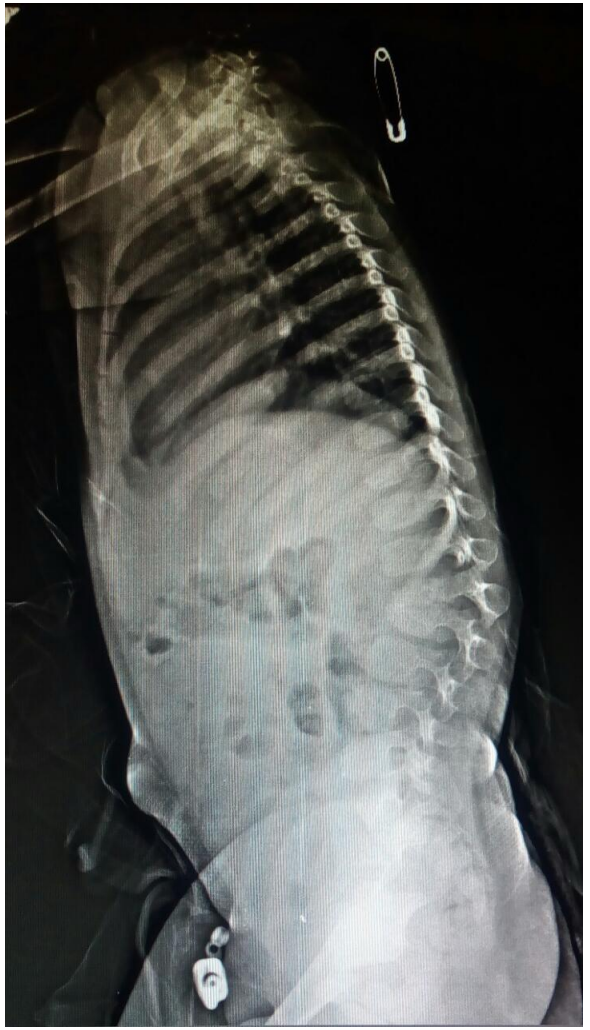
- Reflexes:-
- Knee – normal
- Ankle – normal
- Babinski positive
- Sensory - normal

BLOOD INVESTIGATIONS:-

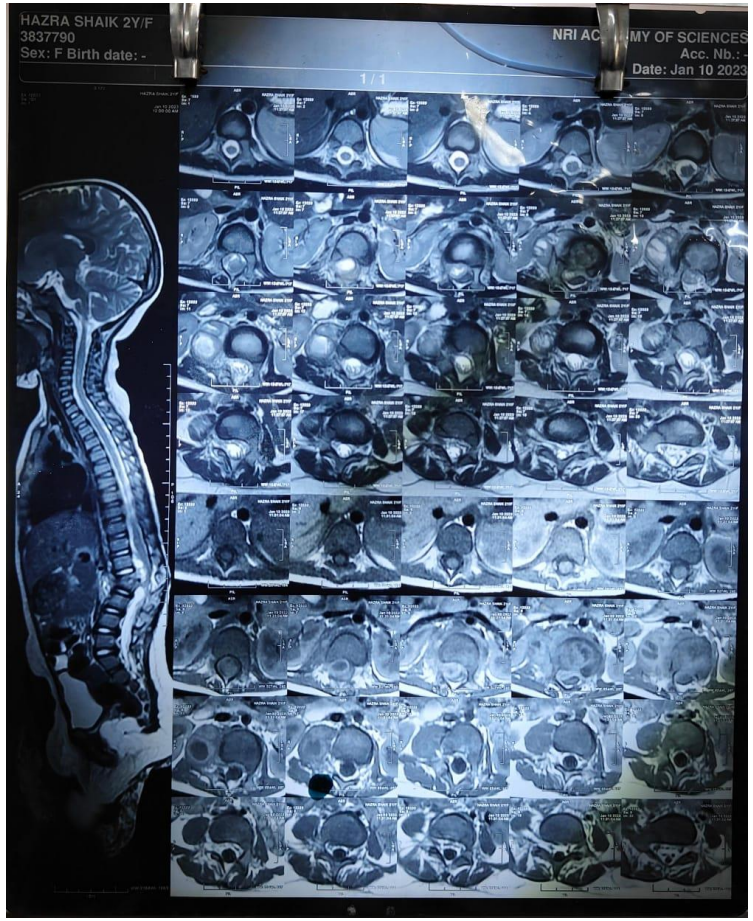
- Hb - 8.4 gm/dl
- Wbc - 14,490 cells/cumm
- LFT :- With in normal limits
- RFT :- With in normal limits
- Virals :- Non reactive
- Crp :- 50 Mg/l

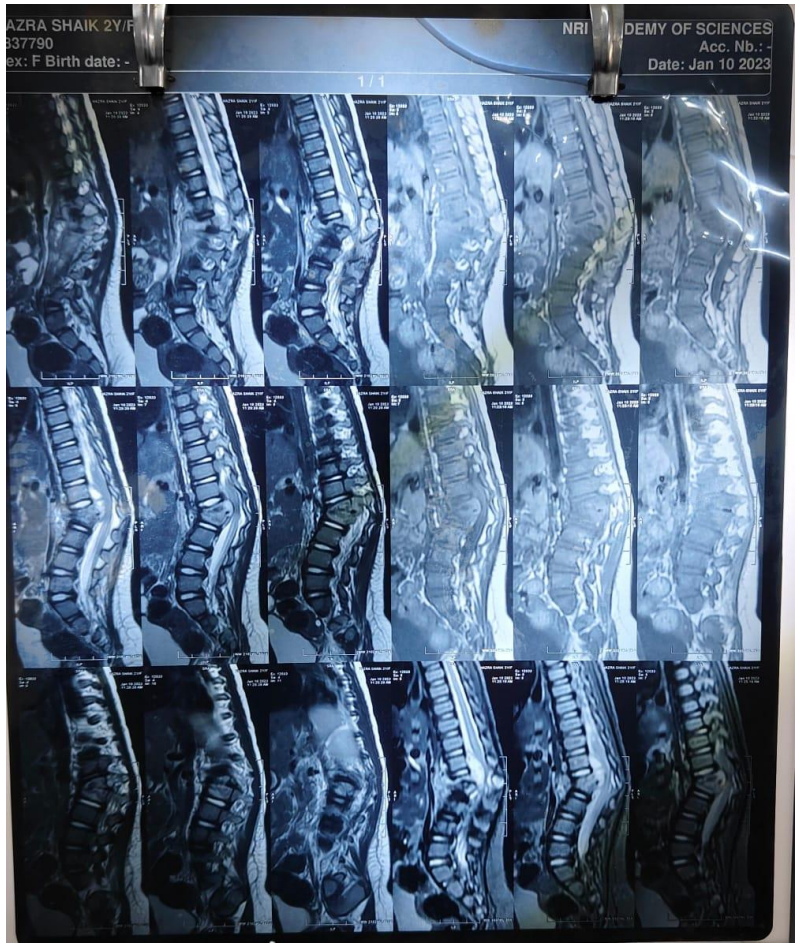
Investigations:- Plain Radiograph



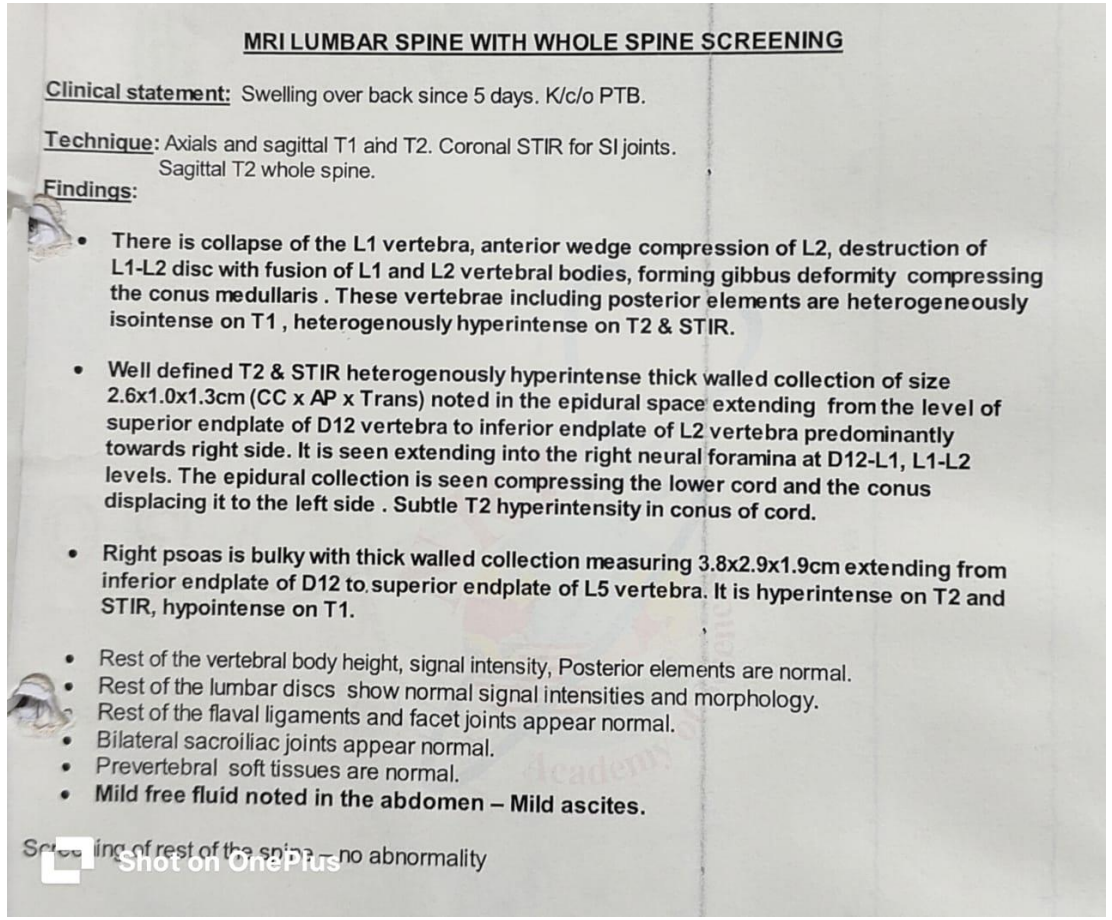


MAGNETIC RESONANCE IMAGING





MRI REPORT



MRI LUMBAR SPINE WITH WHOLE SPINE SCREENING

Clinical statement: Swelling over back since 5 days. K/c/o PTB.

Technique: Axials and sagittal T1 and T2. Coronal STIR for SI joints.
Sagittal T2 whole spine.

Findings:

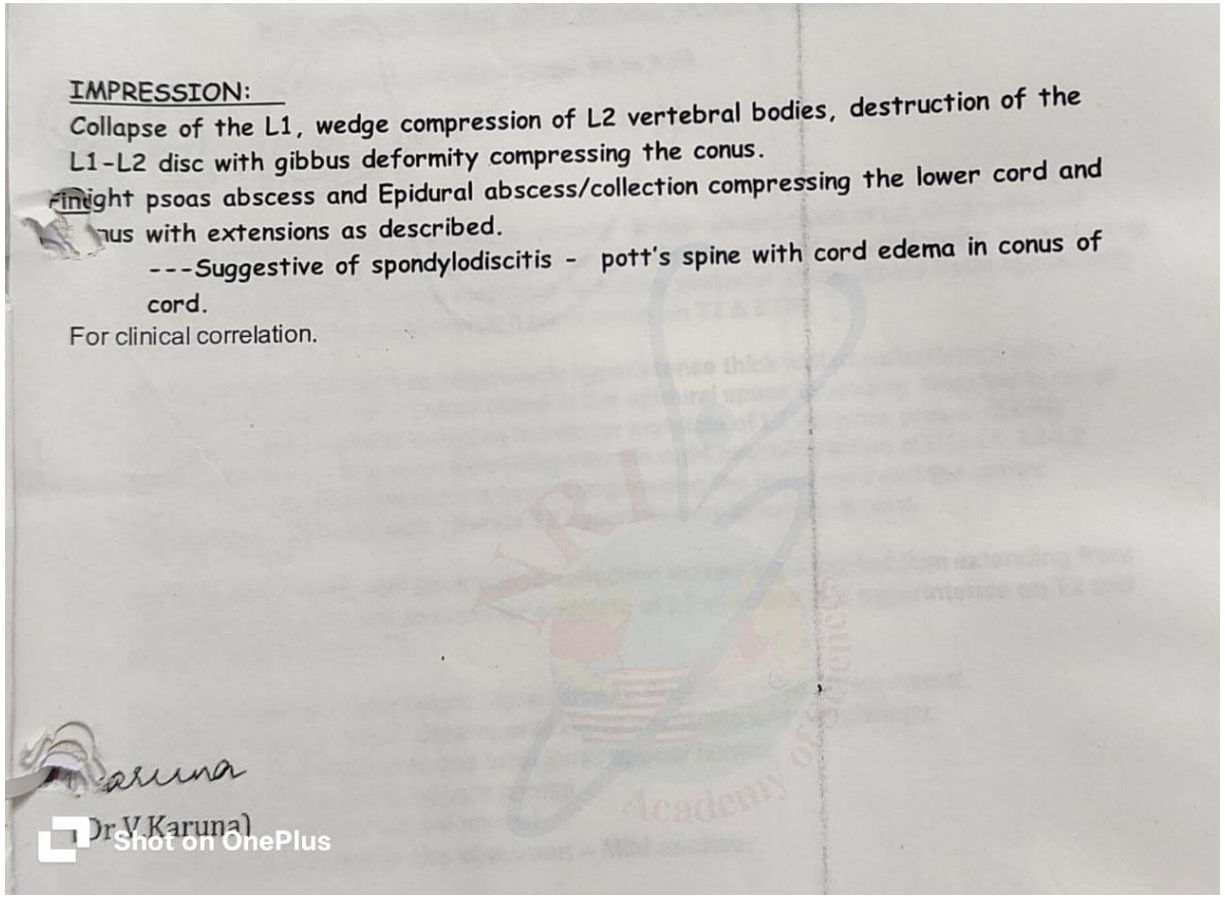
- **There is collapse of the L1 vertebra, anterior wedge compression of L2, destruction of L1-L2 disc with fusion of L1 and L2 vertebral bodies, forming gibbus deformity compressing the conus medullaris . These vertebrae including posterior elements are heterogeneously isointense on T1 , heterogenously hyperintense on T2 & STIR.**

- **Well defined T2 & STIR heterogenously hyperintense thick walled collection of size 2.6x1.0x1.3cm (CC x AP x Trans) noted in the epidural space extending from the level of superior endplate of D12 vertebra to inferior endplate of L2 vertebra predominantly towards right side. It is seen extending into the right neural foramina at D12-L1, L1-L2 levels. The epidural collection is seen compressing the lower cord and the conus displacing it to the left side . Subtle T2 hyperintensity in conus of cord.**

- **Right psoas is bulky with thick walled collection measuring 3.8x2.9x1.9cm extending from inferior endplate of D12 to superior endplate of L5 vertebra. It is hyperintense on T2 and STIR, hypointense on T1.**

- Rest of the vertebral body height, signal intensity, Posterior elements are normal.
- Rest of the lumbar discs show normal signal intensities and morphology.
- Rest of the flaval ligaments and facet joints appear normal.
- Bilateral sacroiliac joints appear normal.
- Prevertebral soft tissues are normal.
- **Mild free fluid noted in the abdomen – Mild ascites.**

Scanning of rest of the spine – no abnormality



IMPRESSION:

Collapse of the L1, wedge compression of L2 vertebral bodies, destruction of the L1-L2 disc with gibbus deformity compressing the conus.

Right psoas abscess and Epidural abscess/collection compressing the lower cord and conus with extensions as described.

---Suggestive of spondylodiscitis - pott's spine with cord edema in conus of cord.

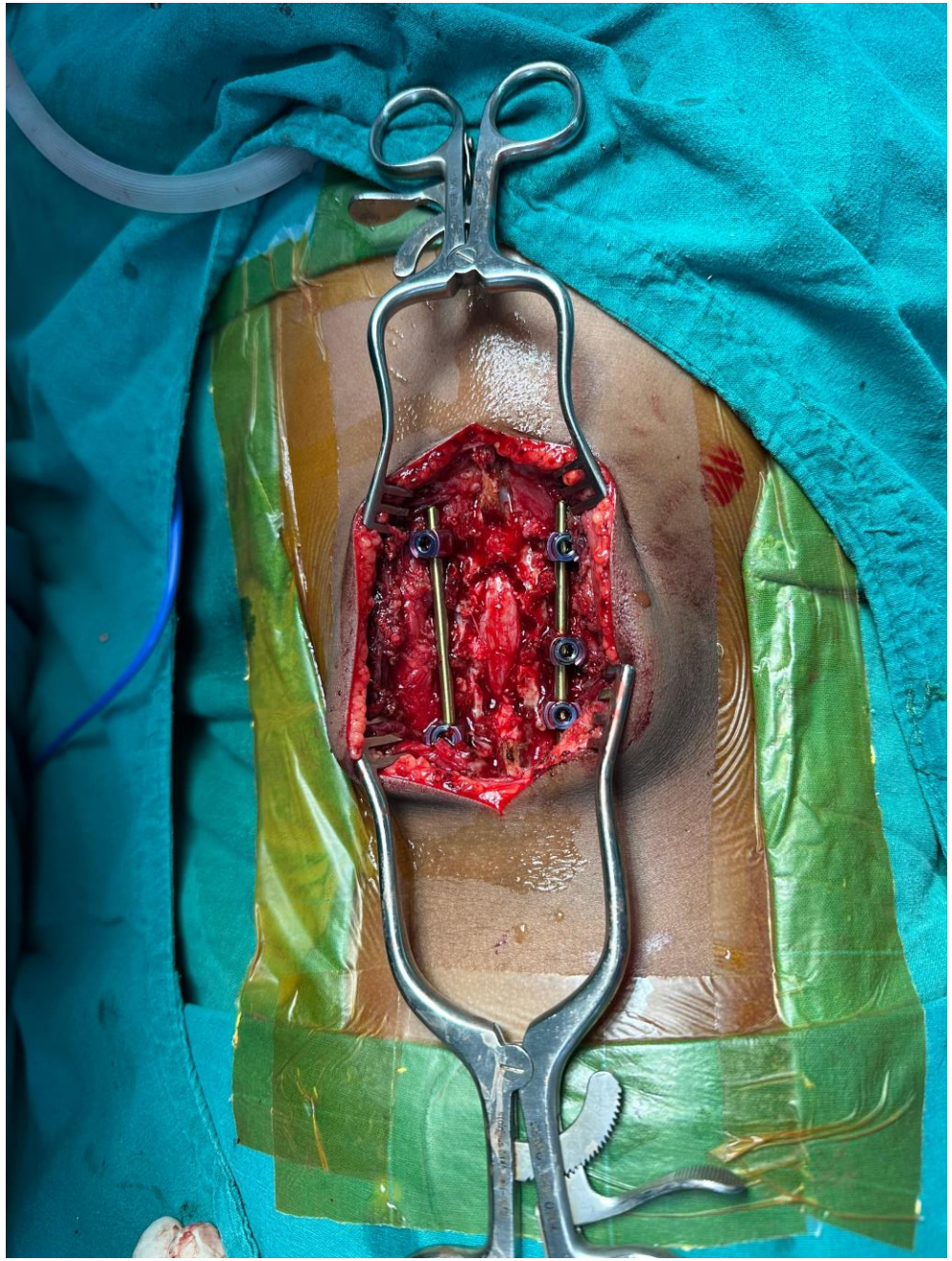
For clinical correlation.

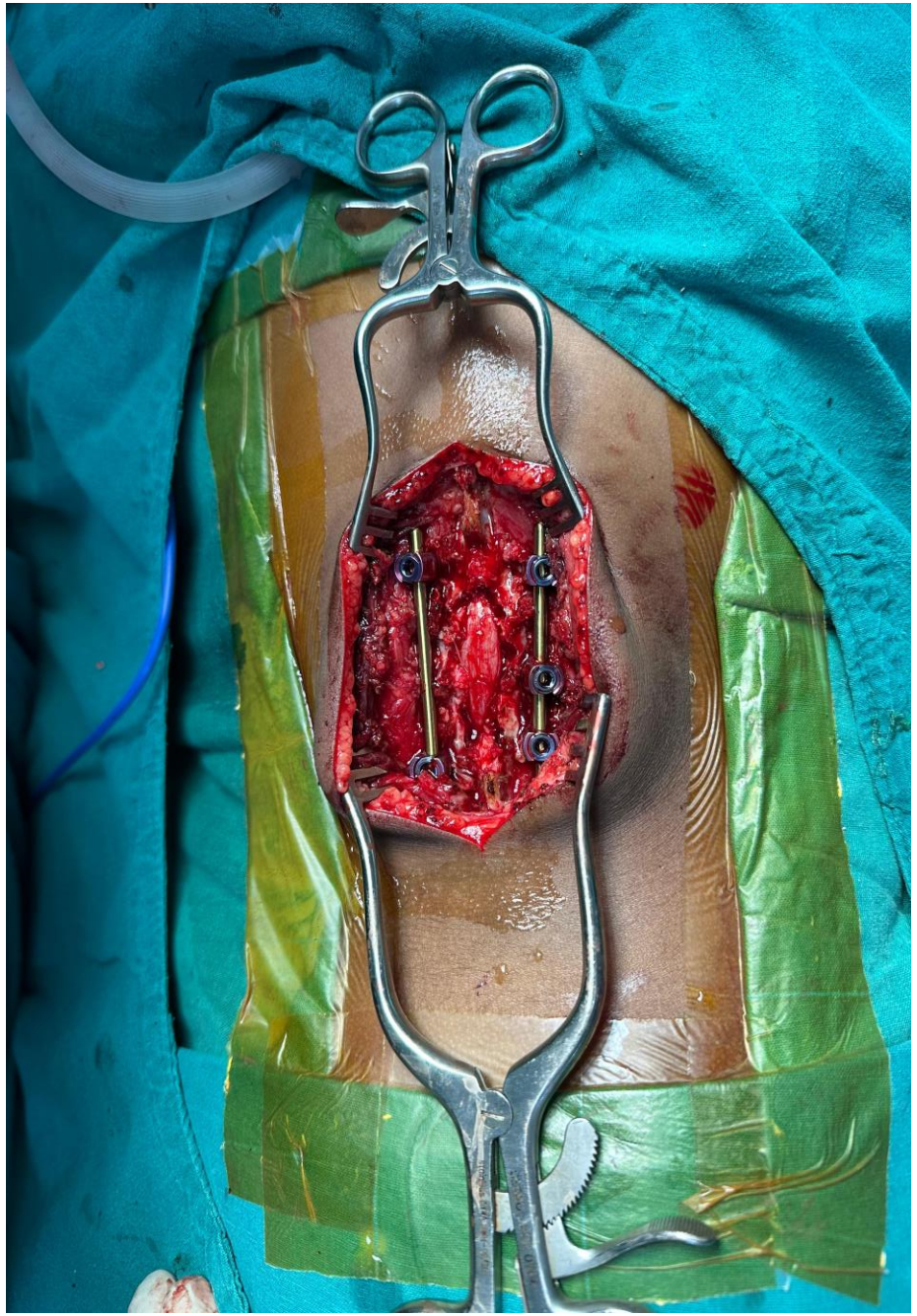
Dr.V.Karuna)

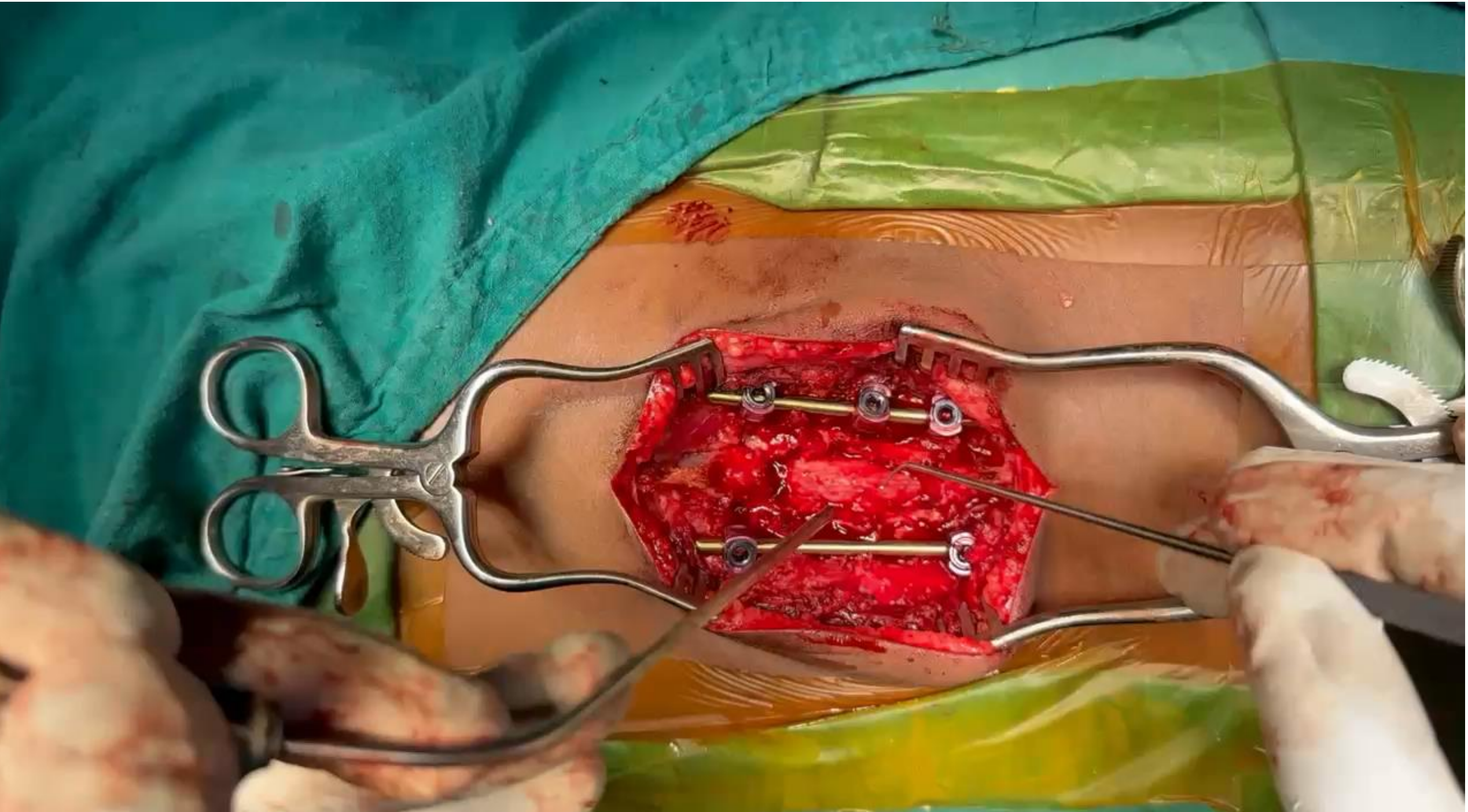
Diagnosis:-

- A 2years old Patient with swelling in thoracolumbar region with no neurological deficit with kyphotic deformity
- Most probable diagnosis - L1-L2 Pott’s spine

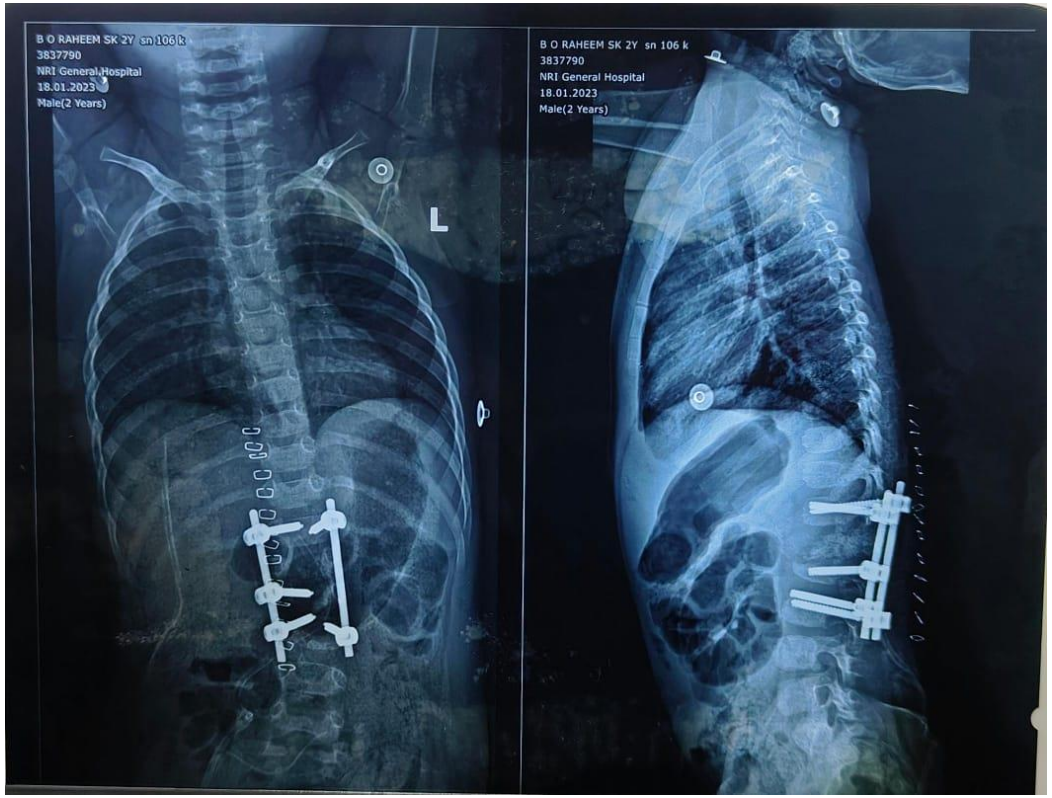
- Patient is taken up for surgery
- T12 – L3 POSTERIOR SPINAL FIXATION AND FUSION WITH DECOMPRESSION and BIOPSY



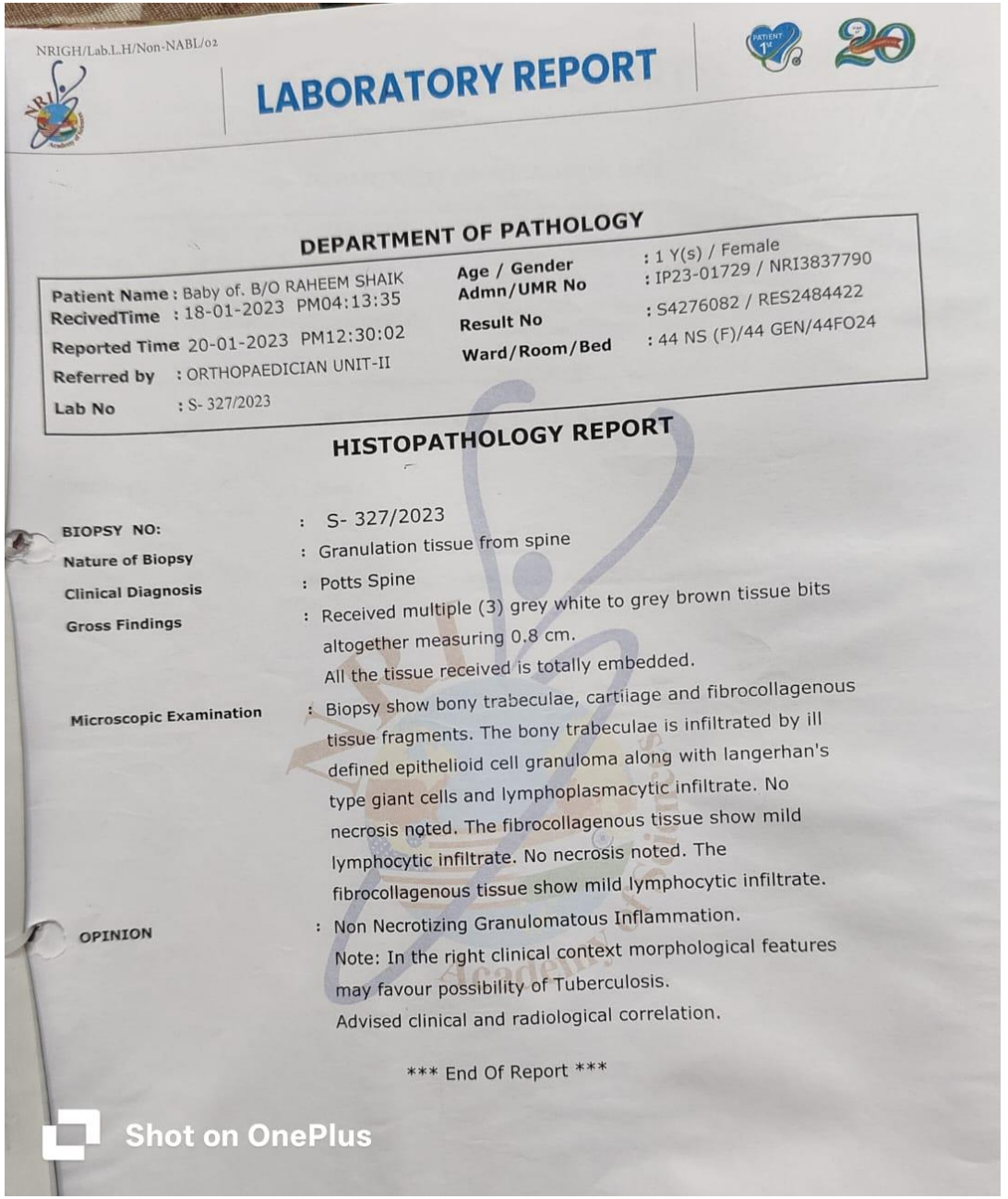




Immediate post op x ray



Biopsy report:-



NRIGH/Lab.L.H/Non-NABL/02

LABORATORY REPORT

DEPARTMENT OF PATHOLOGY

Patient Name	: Baby of. B/O RAHEEM SHAIK	**Age / Gender**	: 1 Y(s) / Female
RecivedTime	: 18-01-2023 PM04:13:35	**Admn/UMR No**	: IP23-01729 / NRI3837790
Reported Time	20-01-2023 PM12:30:02	**Result No**	: S4276082 / RES2484422
Referred by	: ORTHOPAEDICIAN UNIT-II	**Ward/Room/Bed**	: 44 NS (F)/44 GEN/44FO24
Lab No	: S- 327/2023		

HISTOPATHOLOGY REPORT

BIOPSY NO: : S- 327/2023

Nature of Biopsy : Granulation tissue from spine

Clinical Diagnosis : Potts Spine

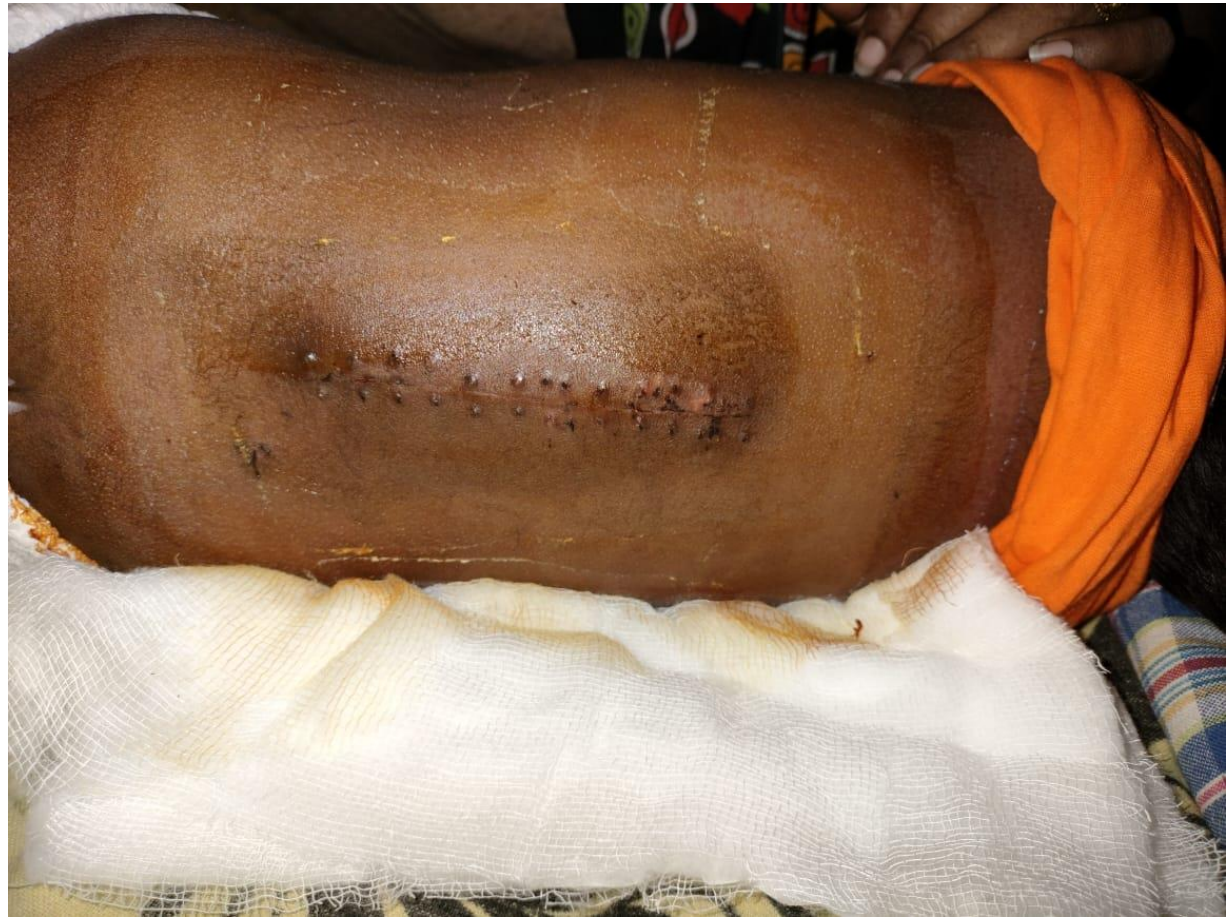
Gross Findings : Received multiple (3) grey white to grey brown tissue bits altogether measuring 0.8 cm.
All the tissue received is totally embedded.

Microscopic Examination : Biopsy show bony trabeculae, cartiiage and fibrocollagenous tissue fragments. The bony trabeculae is infiltrated by ill defined epithelioid cell granuloma along with langerhan's type giant cells and lymphoplasmacytic infiltrate. No necrosis noted. The fibrocollagenous tissue show mild lymphocytic infiltrate. No necrosis noted. The fibrocollagenous tissue show mild lymphocytic infiltrate.

OPINION : Non Necrotizing Granulomatous Inflammation.
Note: In the right clinical context morphological features may favour possibility of Tuberculosis.
Advised clinical and radiological correlation.

*** End Of Report ***

Shot on OnePlus

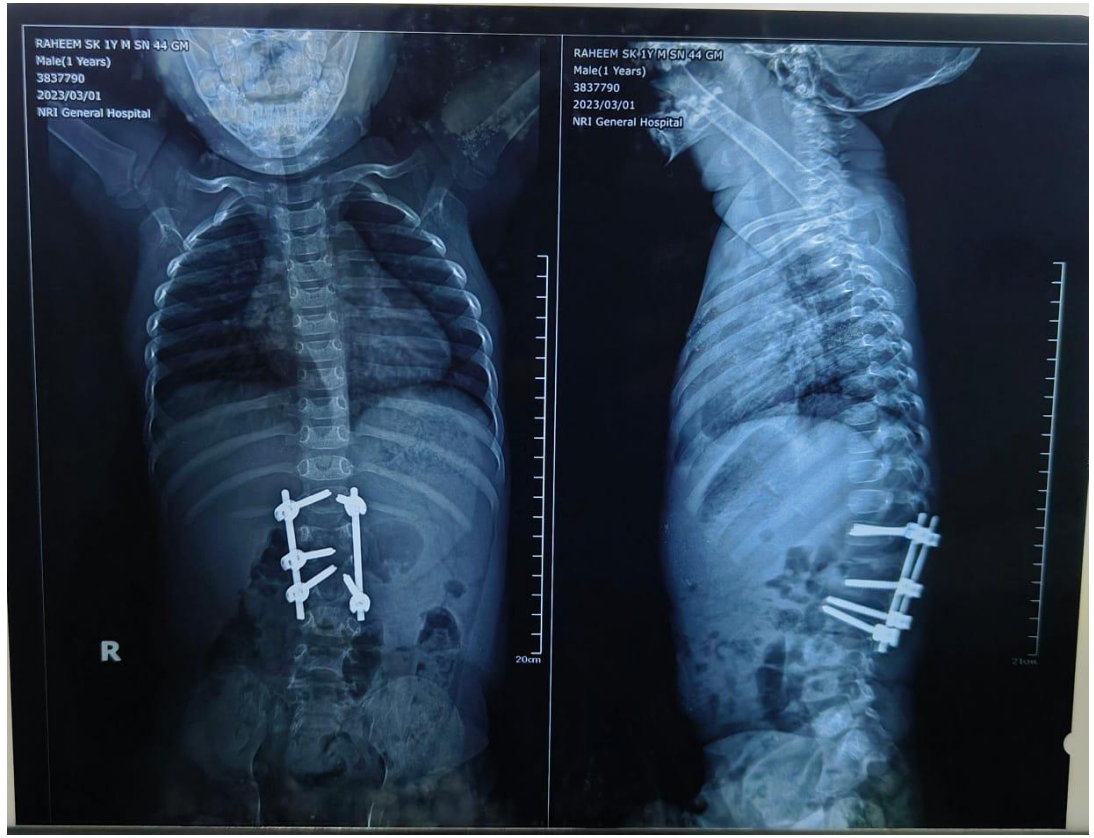


- Drain removal: Postoperative Day (POD) 5
- Rehabilitation:
- Patient was made to sit on pod 5
- With the help of thoracic lumbar brace the patient was made to walk from Pod 11.

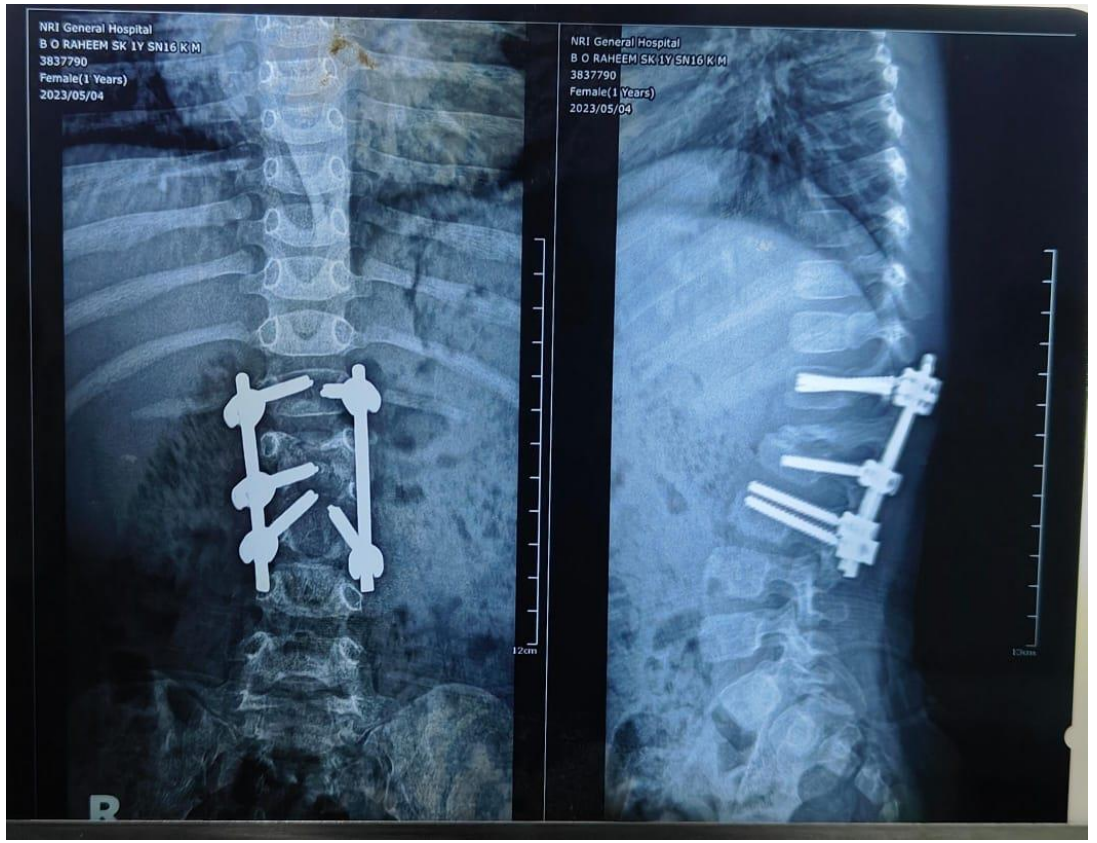
- Wound Management:
- Serial dressings on POD 2, 5, and 9
- No complications noted:
- No swelling
- No localised temperature increase
- No soakage
- Staple Removal:
- Removed on POD 11 and patient was discharged and advised to come after 1 month

- On the recommendation of pediatrics department we advised to start anti tubercular drugs
- 2 months of (HRZE) and 10 months of (HRE)
- RIFAMPICIN 15 MG/KG
- ISONIAZID 7.5MG/KG
- PYRAZINAMIDE 40MG/KG
- ETHAMBUTOL 27.5MG/KG and regular monthly follow up

Follow up post op x rays

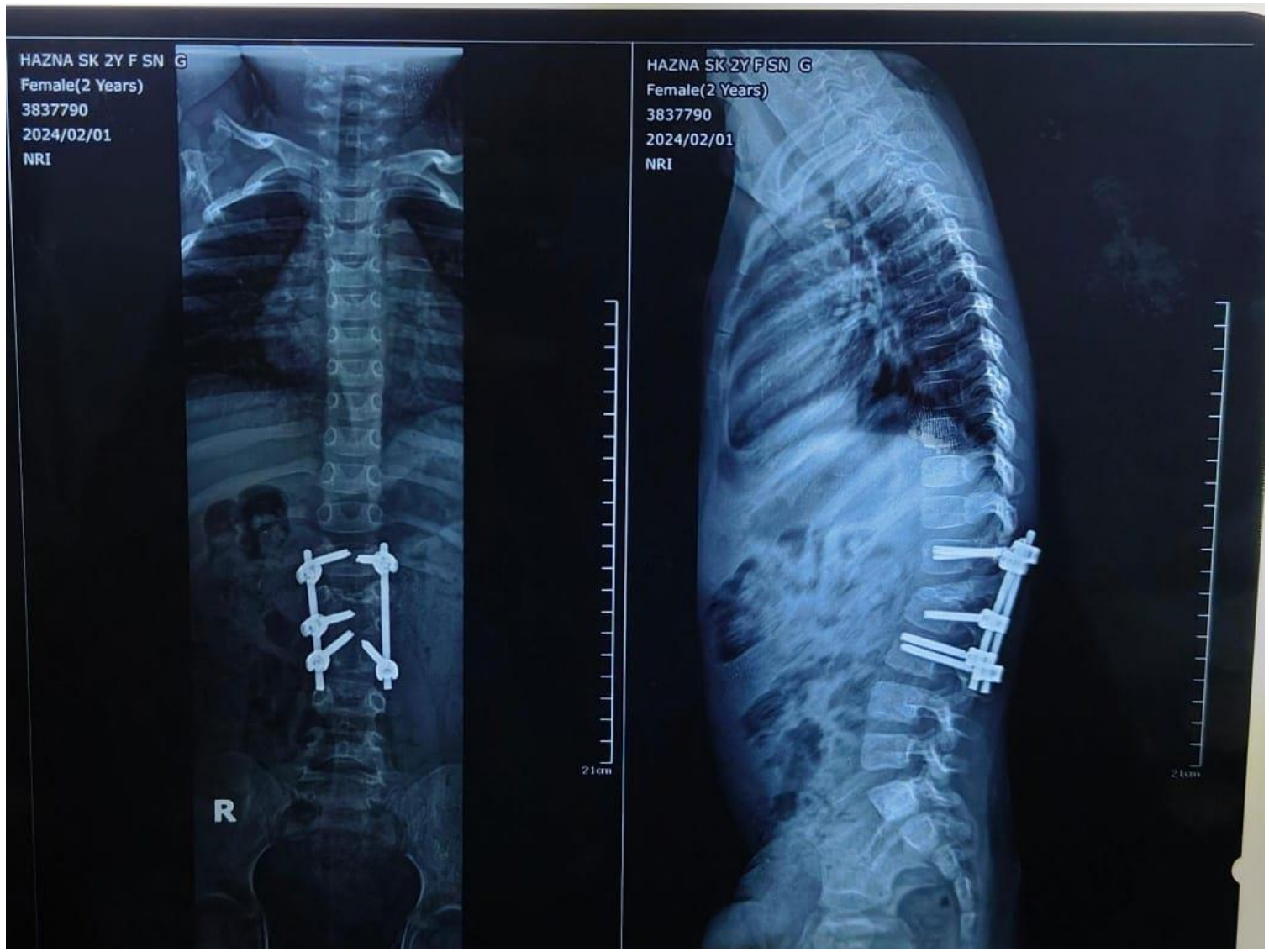


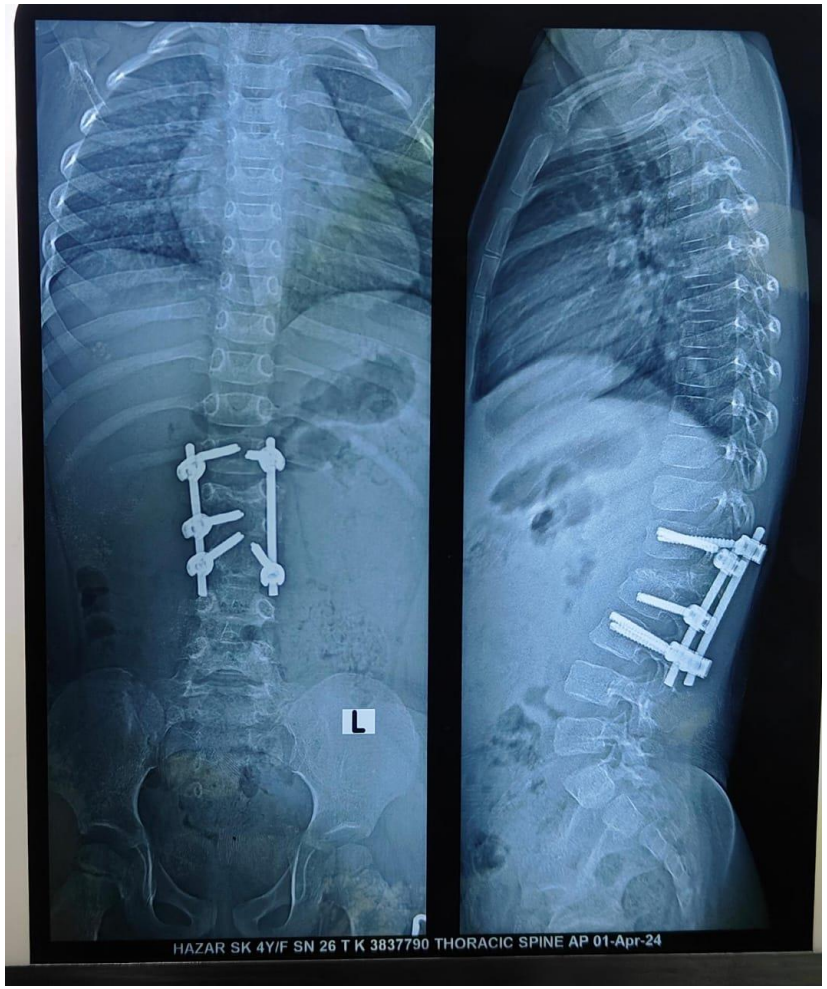
1 month follow up



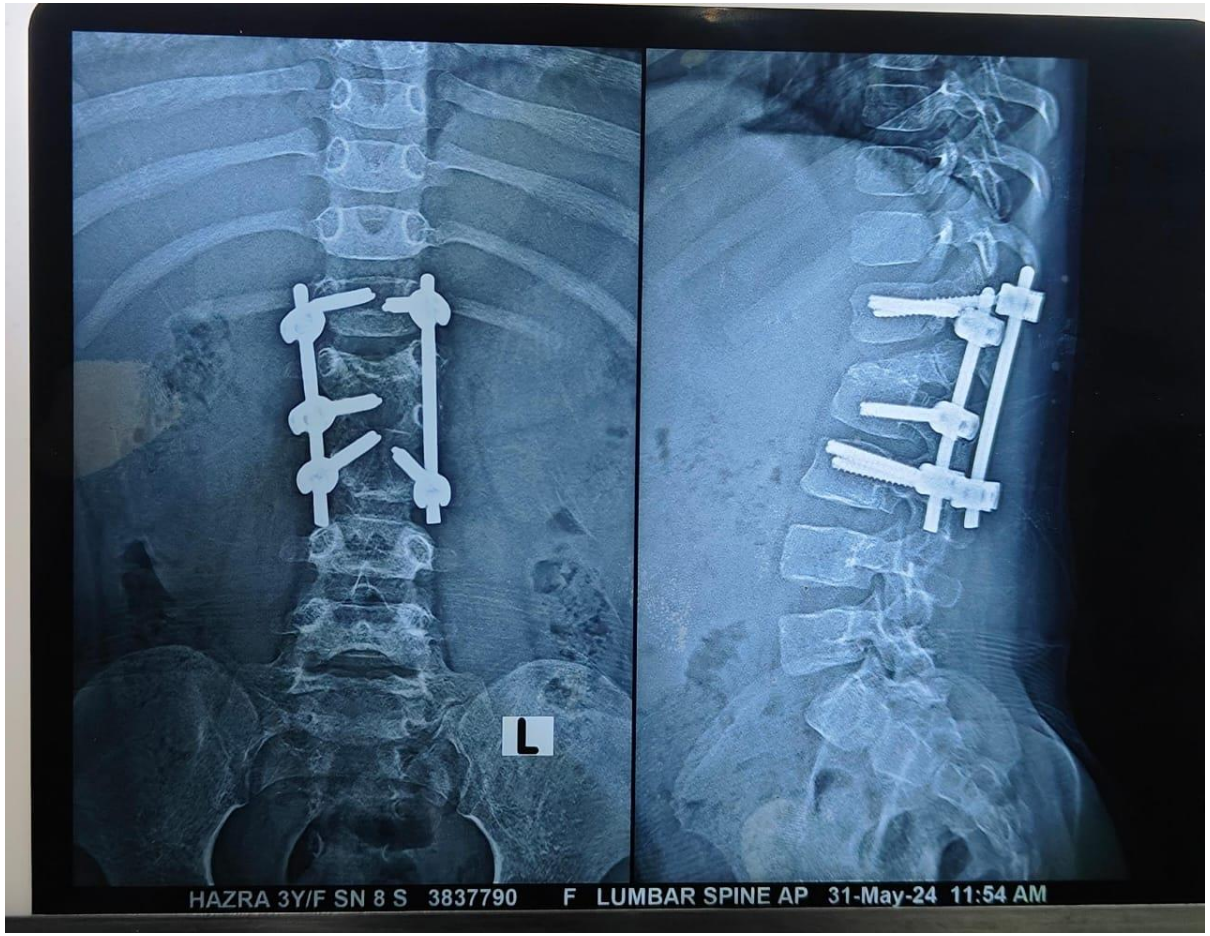
3 months follow up

1 year follow up post op x ray





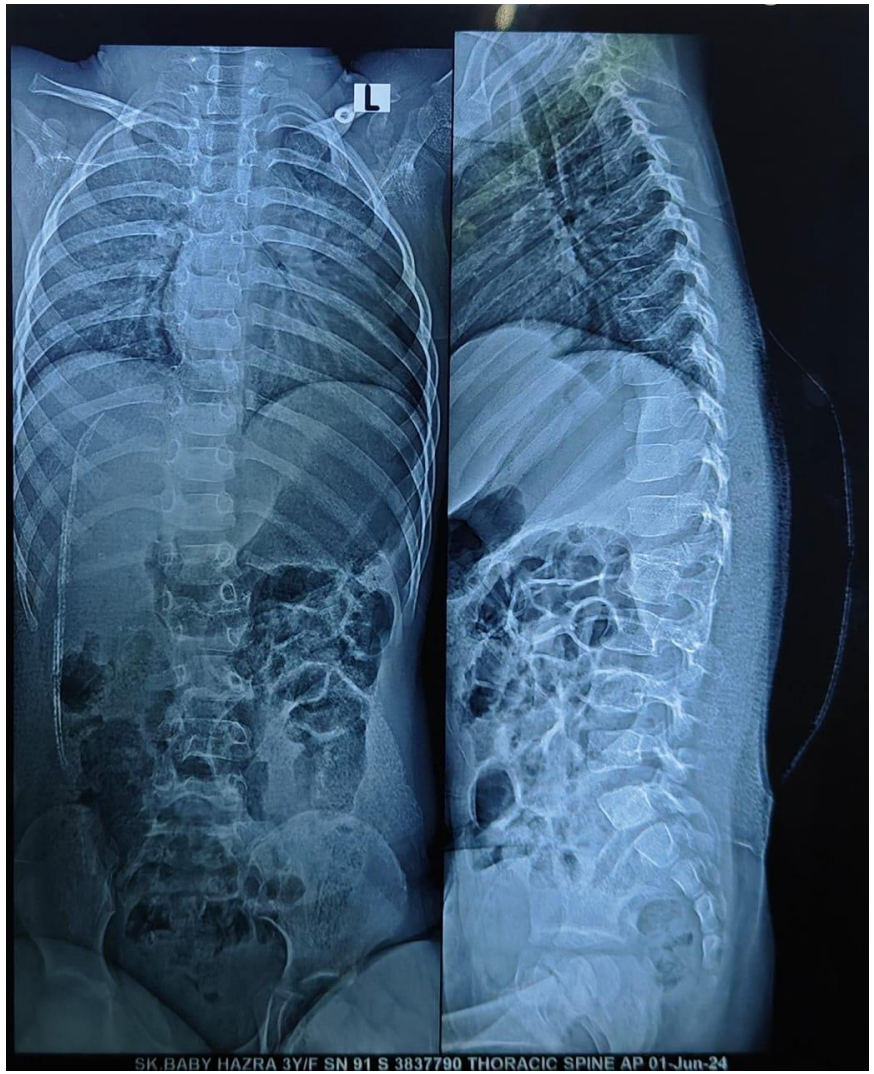
After one and half year of surgery



19 Months of post op follow up

- Patient is admitted again for implant removal after one and half year of fixation

Immediate post op x ray



Patient discharged on pod 11

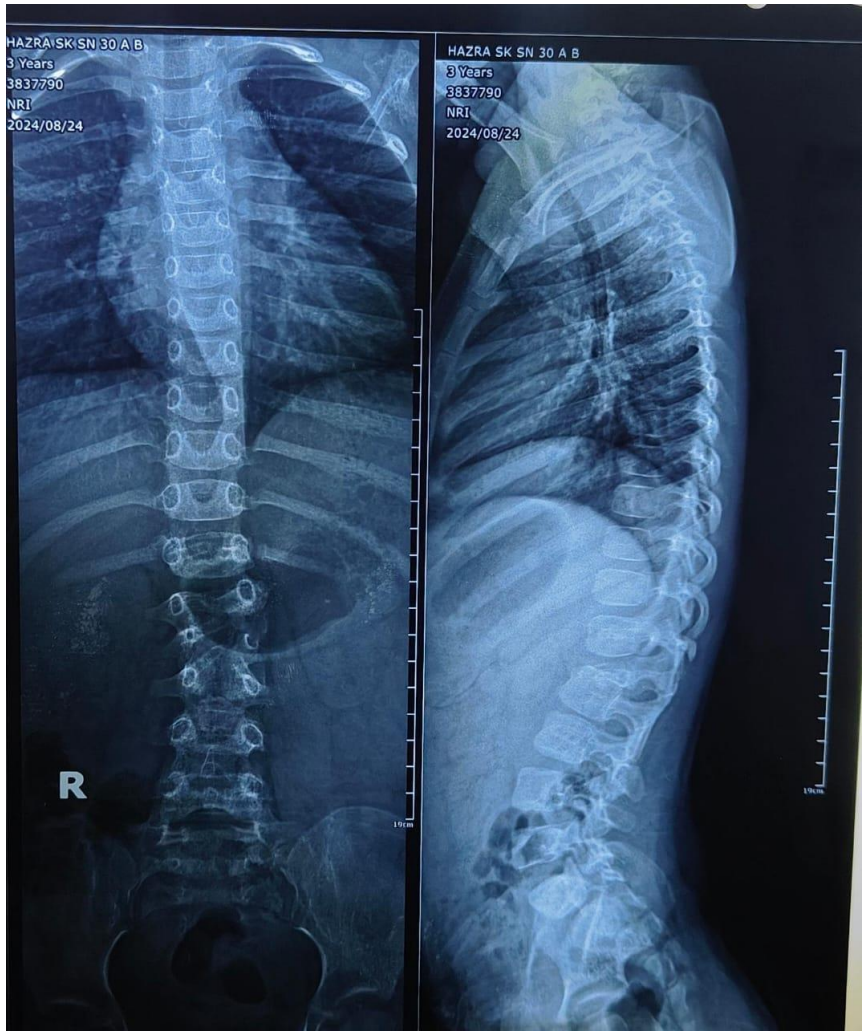
Post-Discharge Instructions:

- Avoid forward bending
- Continue full weight-bearing walking
-Continue activities of daily living as normal.

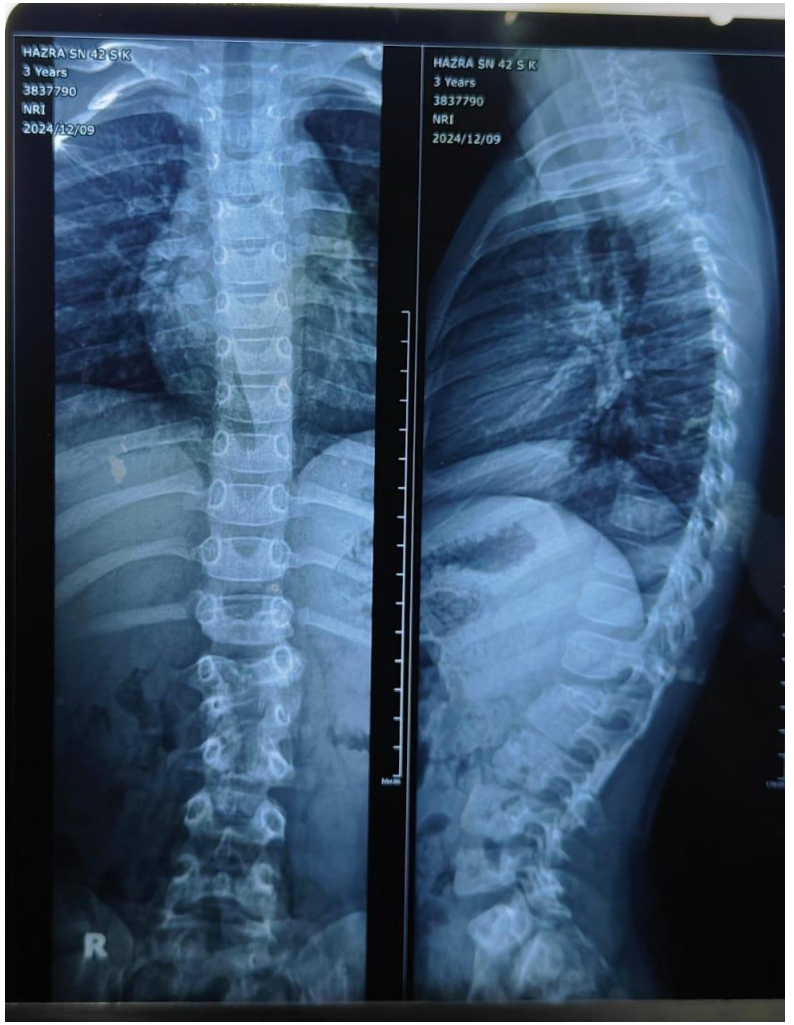
Follow-up:

The patient was scheduled for a one-month follow-up appointment in the Outpatient Department (OPD).

Follow up x rays after implant removal

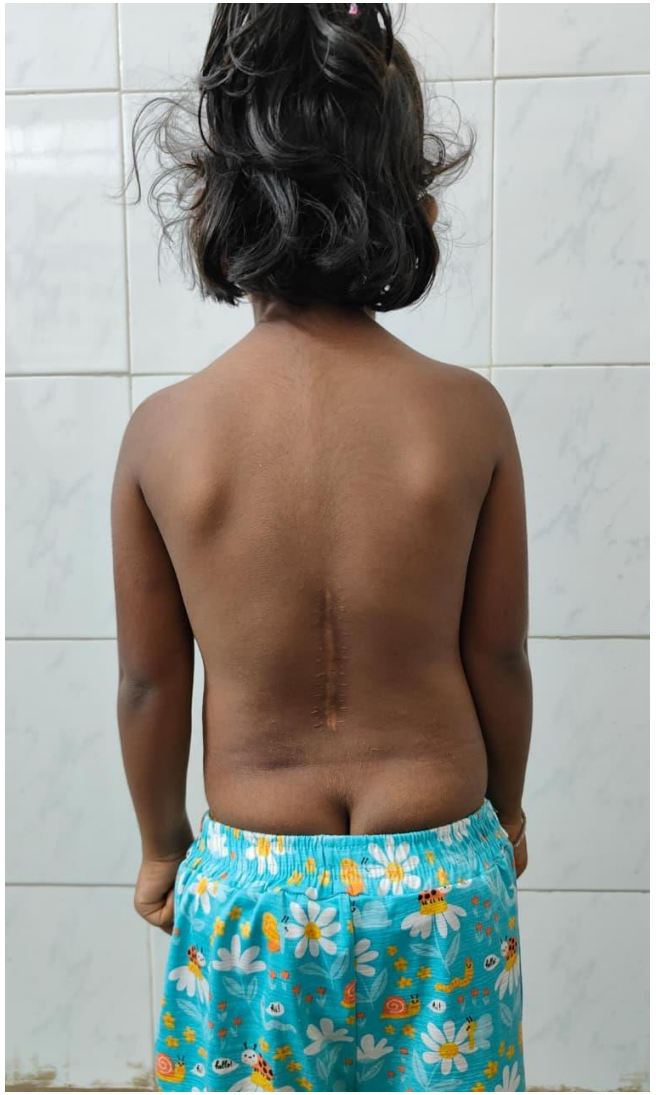


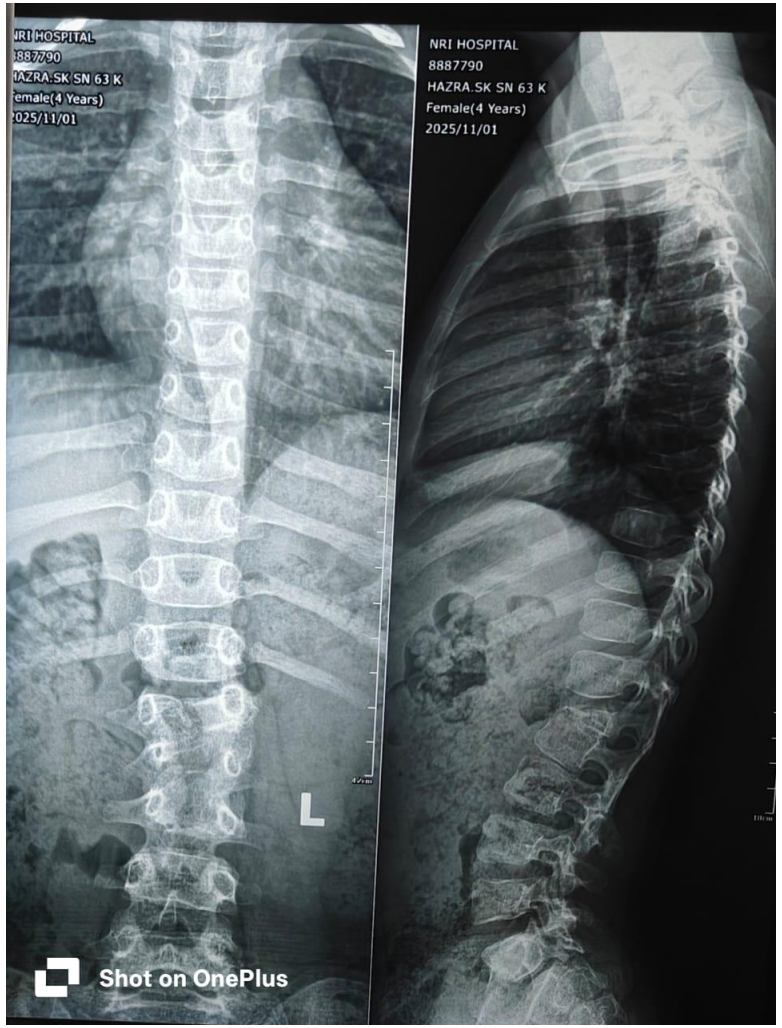
3 months of follow up



6 months of follow up

After 2 years of follow up

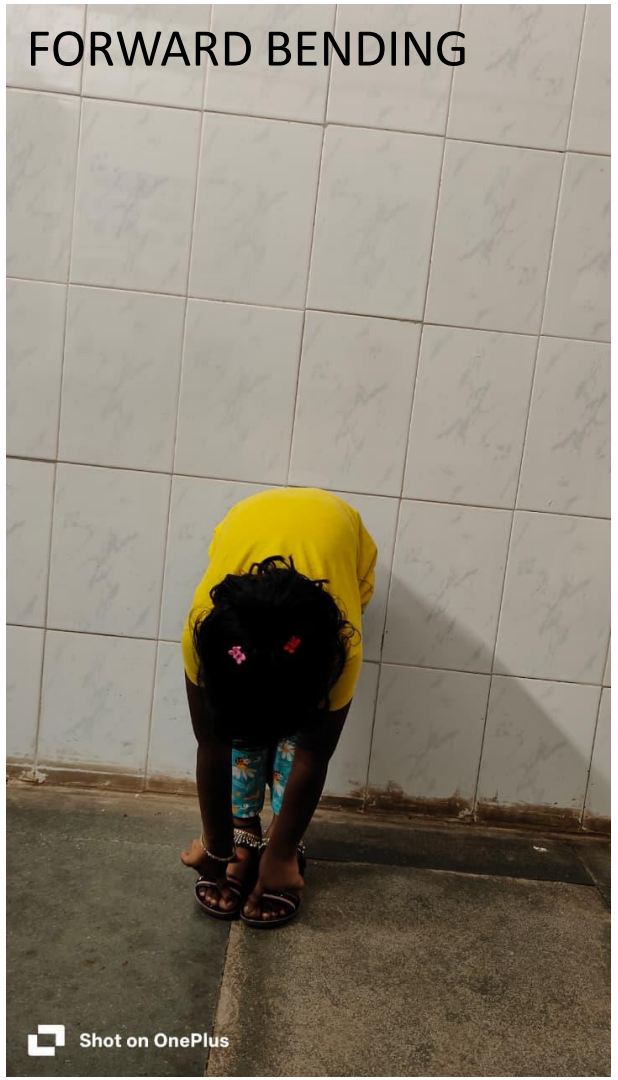




RANGE OF MOTION OF THE PATIENT AFTER 2 YEARS OF FOLLOW UP:-

STANDING

FORWARD BENDING



SIDE BENDING

- Thank you