

Pain Management of a Giant Cell Sacral Tumor: A Challenging Case Review

Harshika Chowdhary Pathak, MD; Ruchi Sharma, MD
Yale University, School of Medicine



PATIENT INTRODUCTION

- During her **25th week of pregnancy**, a 27-year-old female **presented with low back pain radiating down her leg**.
- Two weeks later, she returned with **worsening low back pain radiating to both legs, perineal discomfort, and bowel and bladder incontinence**.
- Subsequent imaging and biopsy revealed a **9-centimeter, giant cell tumor, spanning S2-S4**.

BACKGROUND

- Giant cell tumors are **benign bone tumors** that most commonly occur in femurs or tibias of **young adults**.
- Only **2-8%** of these tumors **develop in the sacrum** – a highly vascularized area – making their treatment and pain management particularly difficult.



INITIAL TIMELINE

escalating doses of oxycodone unable to control pain

early delivery at 31-weeks gestation

tried on denosumab, proton beam therapy, and palliative radiation

oral opiates combined with adjunctive therapies (marijuana, duloxetine, gabapentin)

admitted to the hospital with intractable pain and urinary retention

developed severe mobility restriction, resulting in sacral pressure ulcers

PAIN MANAGEMENT AT A GLANCE

Initial Treatment

- oxycontin 120 mg BID
- oxycodone 15-20 mg q3h PRN
- methadone 10 mg TID

Adjuncts to Opiates

- gabapentin
- medical marijuana
- duloxetine

Hospital Admission

- + pregabalin
- + toradol
- + dexamethasone
- + nortriptyline

Inpatient Opiates

- hydromorphone PCA, alternated with fentanyl PCA
- buccal fentanyl
- transdermal fentanyl

- Ketamine infusion trial

- L4-L5 interlaminar epidural steroid injection

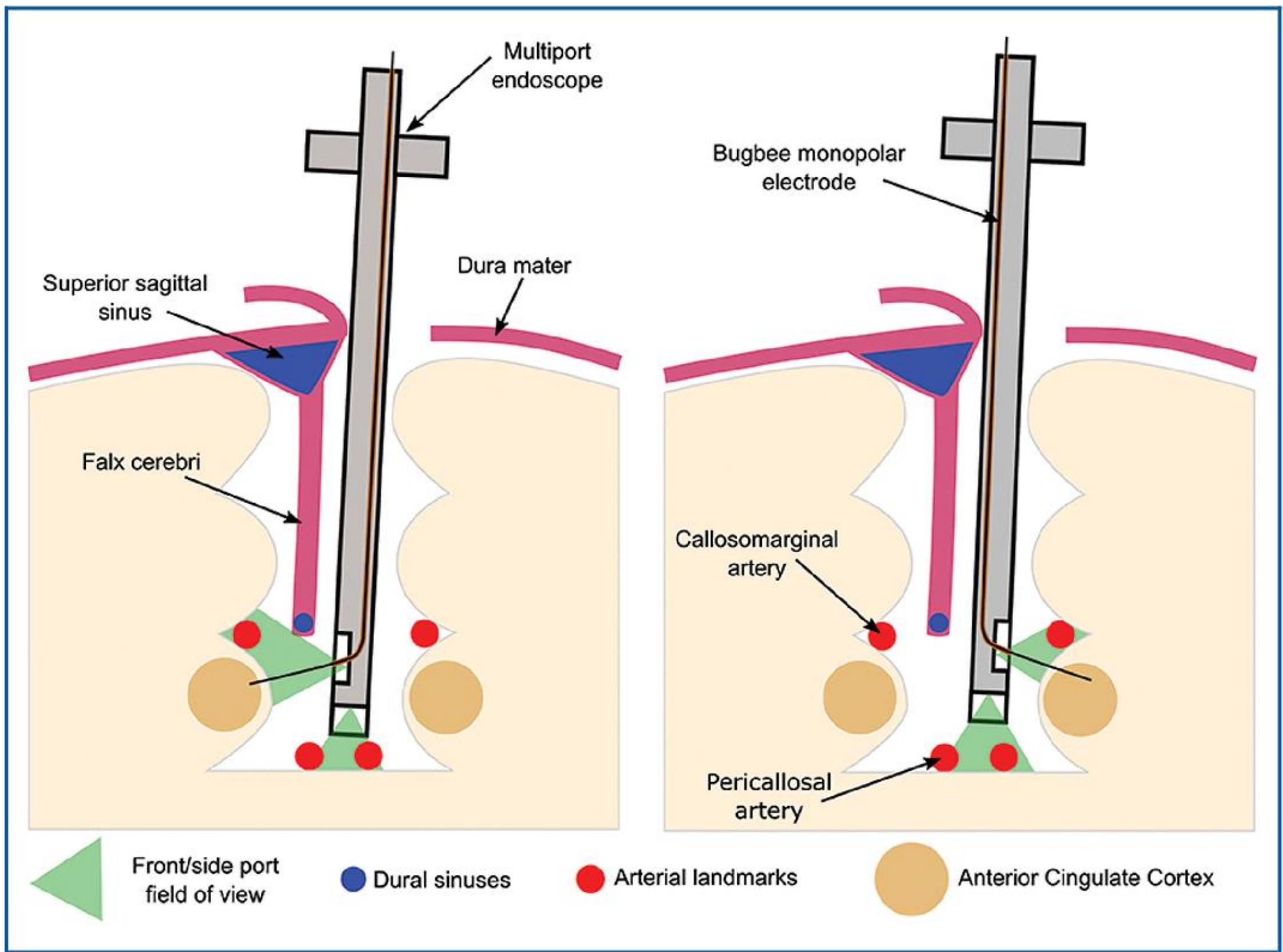
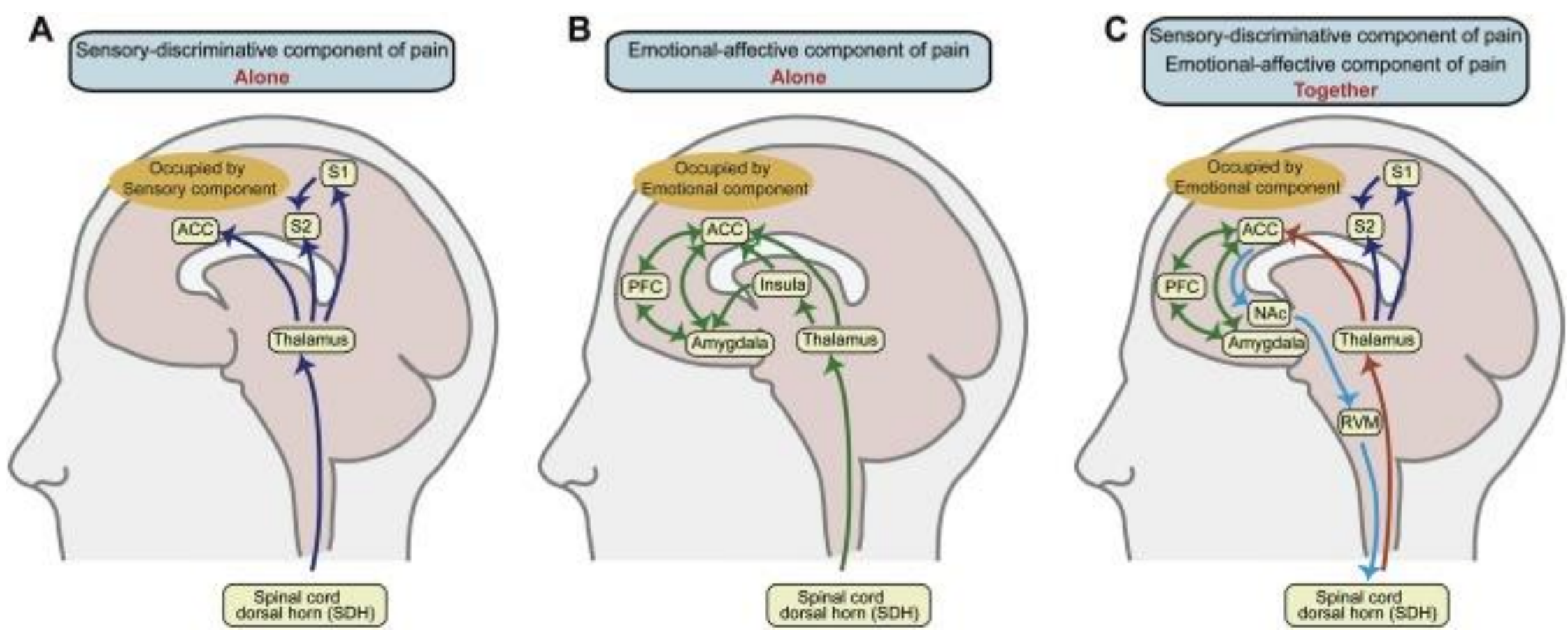
OTHER TREATMENT CONSIDERATIONS

- Intralaminar L4-L5 epidural steroid injection
- Sacrectomy
- Intrathecal pump
- Cordotomy
- Phenol neurolytic spinal

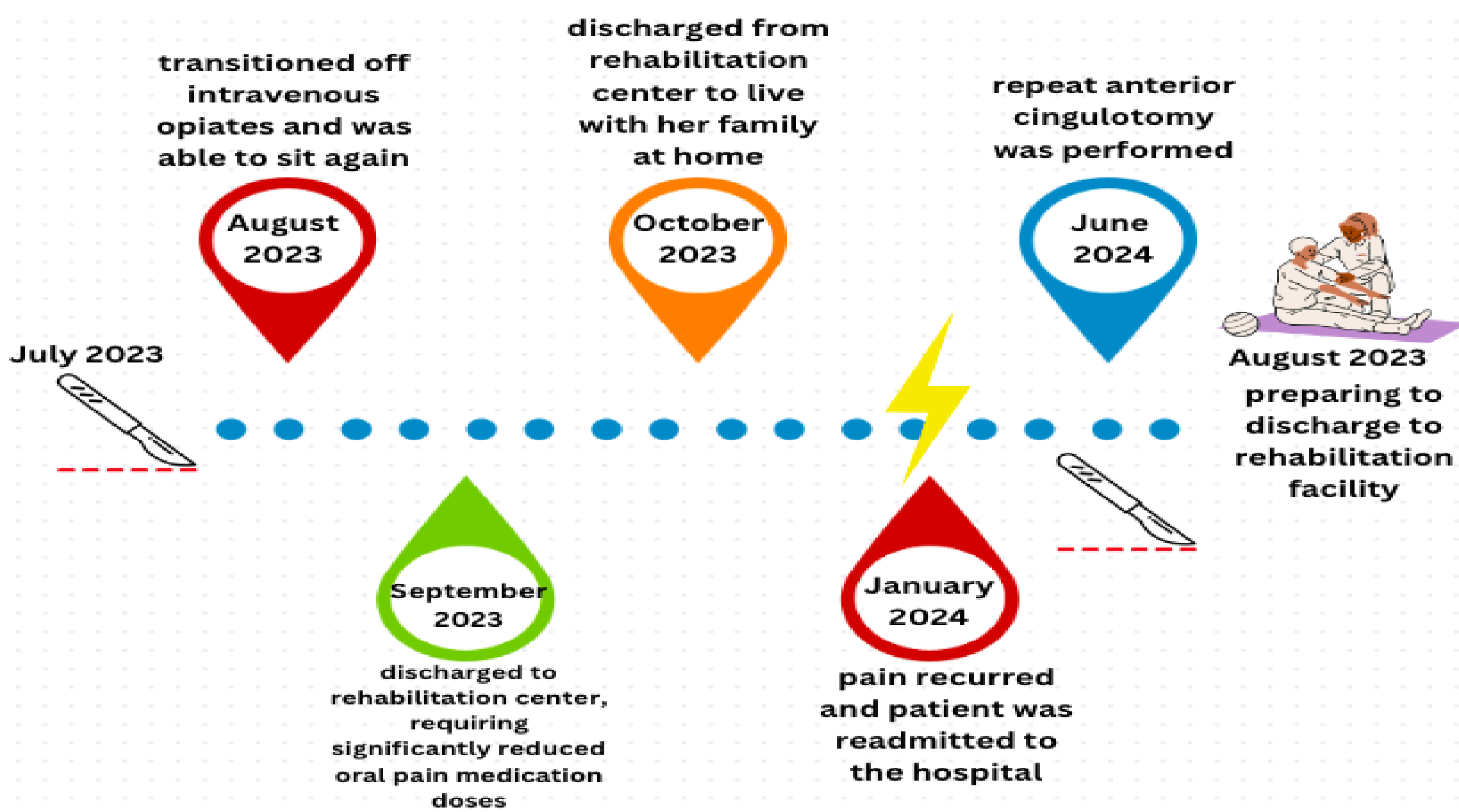


ANTERIOR CINGULOTOMY

- The **anterior cingulate cortex** is a part of the **limbic system** that receives **input from the amygdala**, which **processes and perceives pain**.
- Radiofrequency ablation** creates a lesion in the anterior cingulate region and **disrupts the association of emotion and attention with pain**.



RESULTS



CONCLUSIONS

- This case illustrates the **application of cingulotomies** in alleviating medically refractory chronic pain in a patient who was unable to undergo conventional interventions.
- Bypassing limitations posed by the tumor's location and sacral wounds**, the cingulotomy **targeted pain pathways** in the patient's brain, **altering her pain perception and improving her quality of life**.
- The successful outcome of this case **underscores the importance of tailored use of neuromodulation in chronic pain patients**.

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