

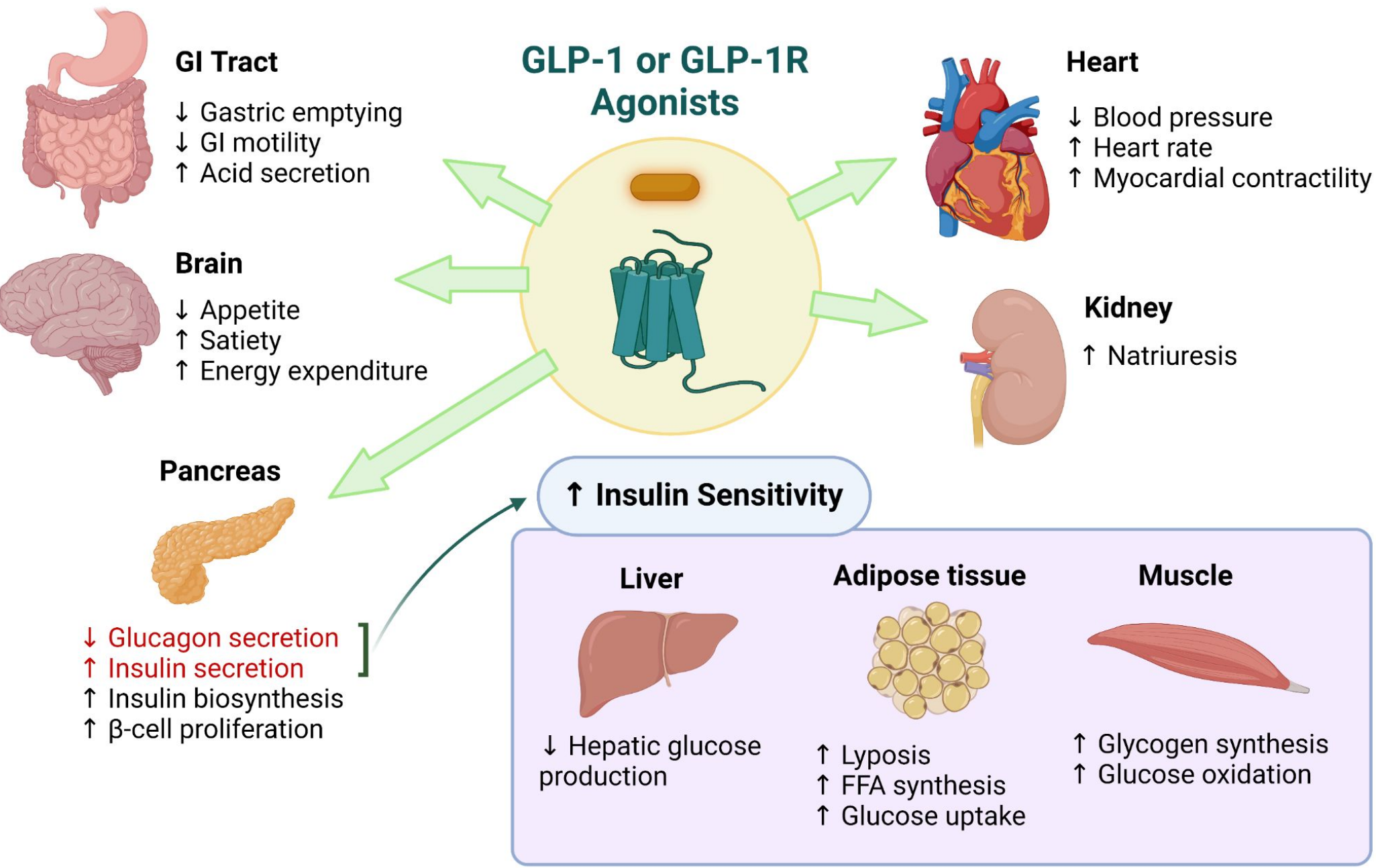
Complications of implantable devices for chronic pain arising from rapid weight loss in the setting of GLP-1 receptor agonist use

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Abstract

Glucagon-like peptide 1 (GLP-1) receptor agonists are a class of medications used in the treatment of diabetes mellitus that have recently become incredibly popular for their weight loss effects. For patients with implanted devices, rapid weight loss can have unforeseen consequences. We are presenting the cases of two chronic pain patients with implantable devices who experienced adverse events due to their profound weight loss after the initiation of GLP-1 agonist therapy.



Case #1

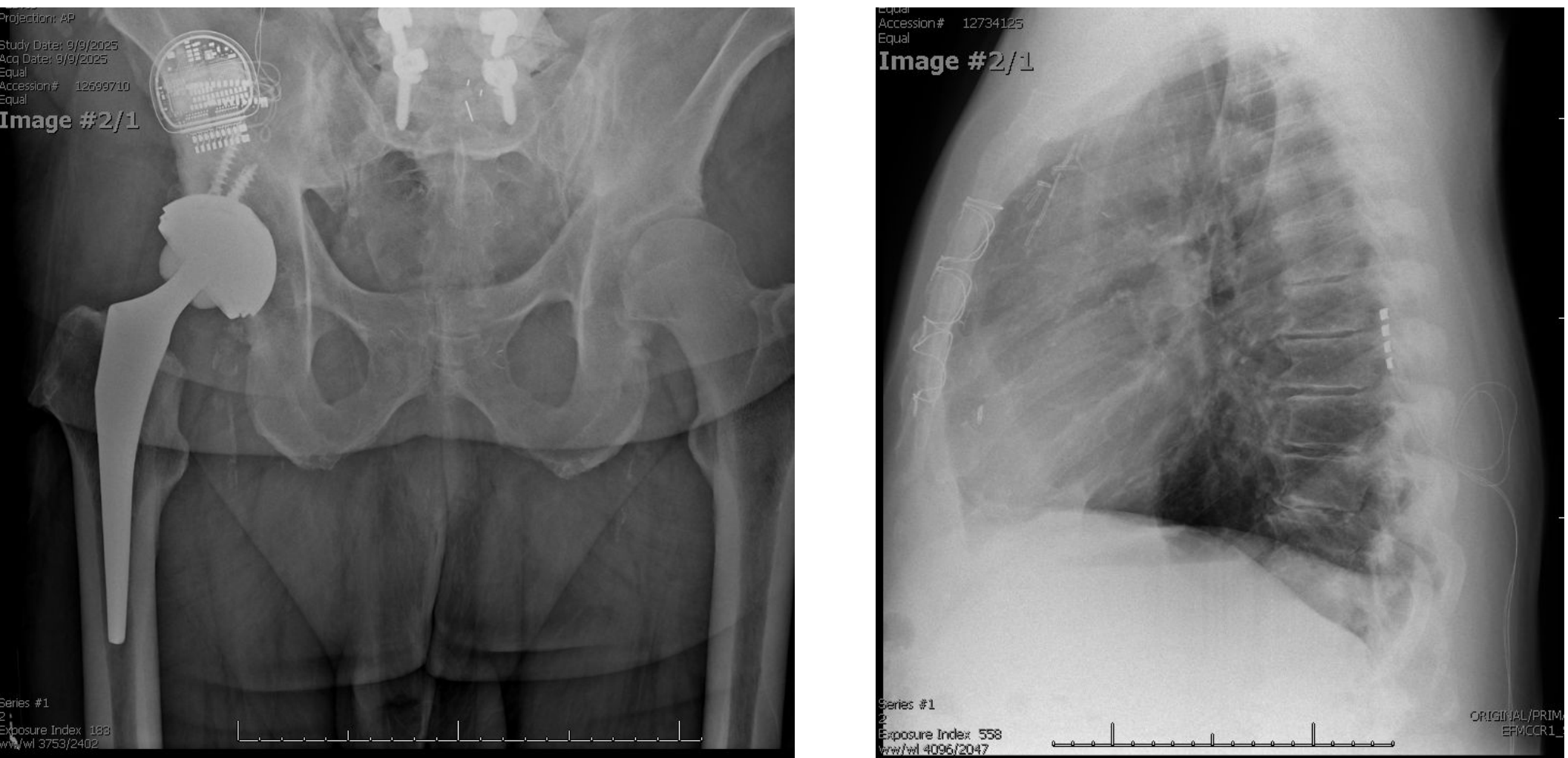
PMHx- Patient #1 is a 64 year old man with a past medical history of axial lumbar back pain status post L5-S1 fusion and placement of spinal cord stimulator in 2010 with multiple subsequent revisions for implantable pulse generator site pain, most recently in 2020.

HPI- The patient presented to the interventional pain clinic with recurrent lumbar back pain in the setting of 100 pounds of weight loss in a year while on 7.5mg of once weekly Mounjaro.

He stated that after the weight loss the battery pack felt more superficial and had become very difficult to lay on. He described the pain as sharp, stabbing, constant, and worsening. The pain started in his low back with mild radiation into bilateral lower extremities. Of note, he had increased his gabapentin dose to 300mg qHS, trialed a prednisone taper via his PCP, and was taking “lots” of acetaminophen.

Exam- On exam, the patient had intact bilateral lower extremity motor and sensory function, positive facet loading, 5/5 positive provocative sacroiliac joint maneuvers, and a noticeably protruding IPG on his right low flank.

A&P- Based on these findings, the patient underwent repeat lumbar RFA with 40% improvement and bilateral sacroiliac joint injections. There is ongoing discussions about possible removal.



Case #2

PMHx- Patient #2 is a 58 year old female with a past medical history of obesity status post bariatric surgery and port placement for malabsorption, COPD on home oxygen, T2DM on insulin pump and Mounjaro 15mg weekly, and chronic back pain status post implantable intrathecal drug delivery system providing morphine placed two years prior at outside hospital.

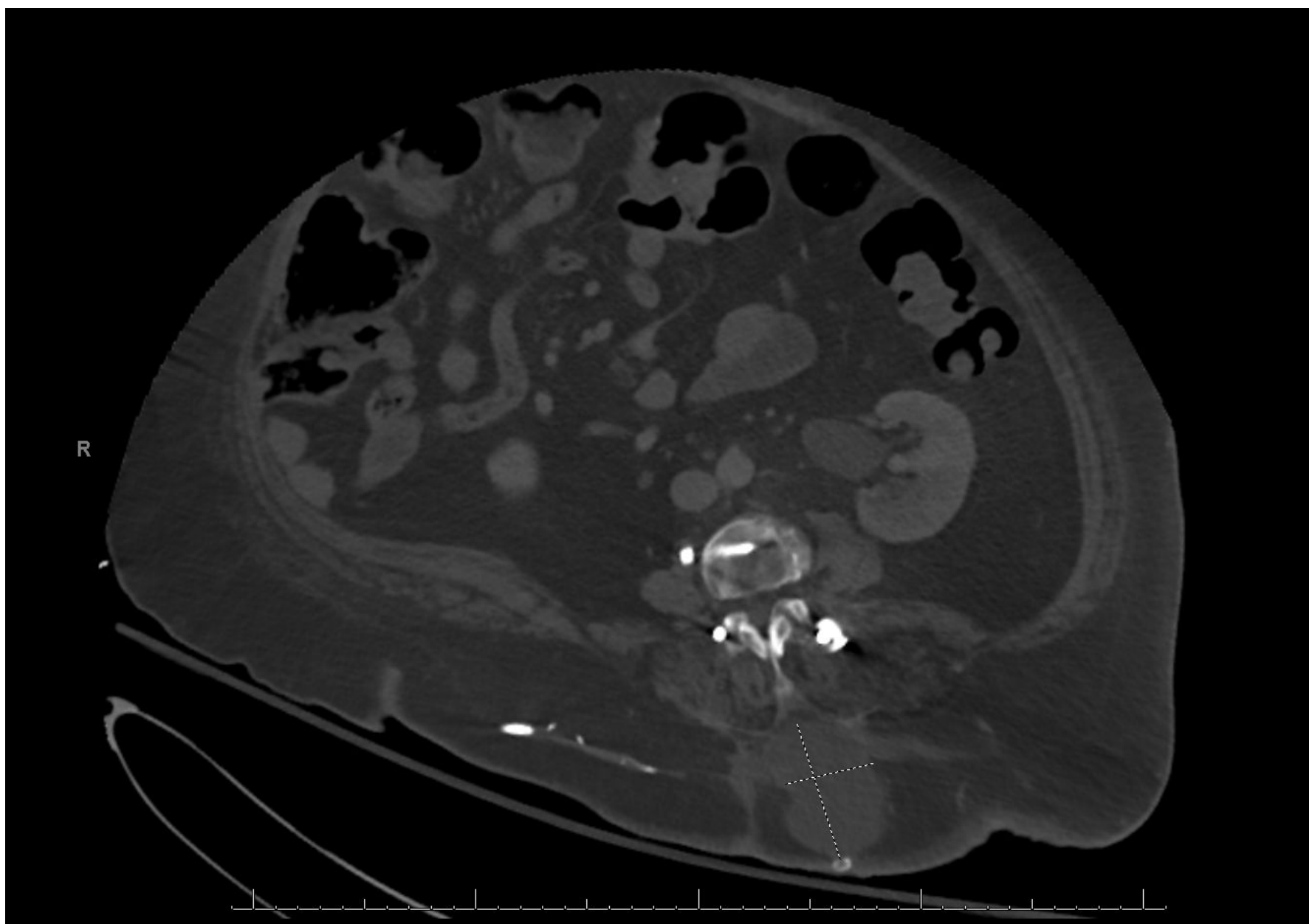
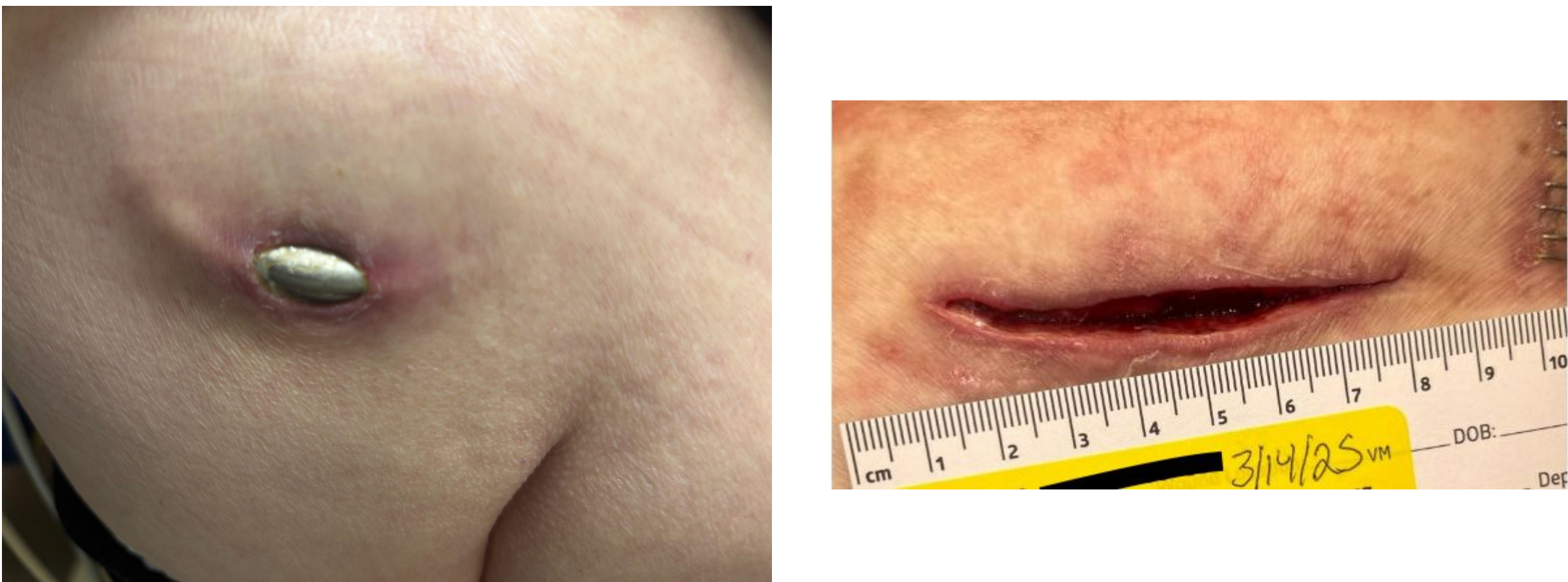
HPI- The patient initially noted bruising at the site of her pump 6 days before presenting to the ED. However, the pump then eroded through the skin causing significant pain without erythema or purulence, VSS. Of note, the patient reported significant weight loss after the initiation of Mounjaro. She was started on Ceftriaxone and she transitioned to IV morphine.

Course-
2/2025- The patient was taken to OR for explantation by an interventional pain provider. Neurosurgery and general surgery were called for assistance with removal of deep anchoring sutures and wound vac placement. She was discharged 7 days later on IV antibiotics and PO morphine.

4/2025- increased abdominal wound site drainage and dehiscence of her posterior lumbar wound site. OR for washout and evaluation of CSF leak. She was discharged on home IV antibiotics.

5/2025- Increased purulent abdominal wound site drainage, wound dehiscence, and back pain. She also had cellulitis around her chest port. She was taken to the OR for wash out, wound vac placement, and removal of her port. She was started on three weeks of IV cefepime, and her PO morphine was increased from 6 times daily to 8 times daily.

She is currently continuing outpatient ID, plastic surgery, and wound care.



Discussion

GLP-1 receptor agonists are a powerful weight loss tool. Over 68 weeks, patients on weekly semaglutide lost 14.9% of their body weight on average^[1]. These profound effects have likely led to the surge in popularity of these medications. A recent study found a 7 fold increase in the incidence of GLP-1 agonist usage in overweight patients without diabetes between 2011 and 2023^[2].

While the benefits of weight loss can not be discounted, our cases highlight unintended consequences of GLP-1 agonist usage. The first patient is currently experiencing increasing pain and discomfort. While, the second patient is still undergoing extensive treatment due to the erosion of her implanted device. Since we do not have outside records regarding the placement of these devices, we can not conclude that their weight loss was the cause of these complications. However, it is possible they contributed.

Being aware of these potential adverse events can inform conversations and counseling around implant location, timing of implantation, and potential risk for patients with implantable devices starting on these medications.

References

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