

## **GLP-1 Analogue induced AKI**

Category: Medicine & Medical Specialties; Poster Presentation

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[Supplemental Video](#)

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Introduction: GLP-1 analogues are antidiabetic medications which act by several mechanisms including glucose induced insulin secretion, slowed gastric emptying and decreasing postprandial glucagon levels. Some like semaglutide have also been used for weight loss due to slowed gastric emptying and side effects of nausea and vomiting.

How-ever caution needs to be taken while initiating or increasing doses as few cases of new onset or worsening renal failure have been reported. Risk factors include volume depletion due to GI losses by vomiting or diarrhea, intake of drugs affecting the renin-angiotensin system and pre-existing renal impairment.

Case Presentation: We present an interesting case of semaglutide induced acute kidney injury in a 57year old female with normal baseline renal functions. The patient came to us with complaints of nausea, vomiting, generalized weakness and decreased urinary output for couple of days. She has hypertension and takes bumatenide, lisinopril and hydrochlorothiazide.

About a month ago, she was started on semaglutide 0.25 mg s.c. weekly for weight loss and eventually the dose was increased to 0.5 mg weekly. Her BMI at presentation was 29 and BP was 106/70 mmHg. Physical examination revealed some tenderness in left flank region. Her BUN was 70, creatinine 8.5 and eGFR 5.14 (baseline BUN and creatinine: 20 and 1.1 respectively). Renal ultrasound was normal.

Diagnosis: Patient developed AKI due to increase in dosing of semaglutide with background of nausea and vomiting and use of ACE inhibitors and diuretics.

Management: Patient was advised against using semaglutide and antihypertensives were discontinued in view of low BP. She was started on iv fluids. Over next 2 days her clinical condition improved and BUN and creatinine decreased to 24 and 1.9. Her urinary output normalized. She was restarted on bumatenide on discharge. Two weeks follow up revealed stable BUN and creatine at 23 and 1.5.

### Learning Objectives

1. GLP-1 receptor agonists can cause weight loss and are used in people with BMI more than 30 or if people have BMI more than 27 with 1 or more weight associated co-morbidities like hypertension, diabetes mellitus etc.
2. Initiating or increasing dose of GLP-1 analogue can cause AKI. The risk factors include volume depletion due to other causes like GI losses by nausea/vomiting, concomitant use of diuretics or medications affecting the RAAS and pre-existing renal disorder.