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# 60 Year Old Male with Autonomic Dysreflexia in C7 AIS A secondary to a Suprapubic Catheter Inflation in the Membranous Urethra

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## Introduction

Autonomic dysreflexia is a potentially life-threatening complication in patients with a spinal cord injury above the level of T6. A dangerous symptom is an increase in blood pressure induced by reflex sympathetic hyperactivity secondary to a noxious stimuli which can lead to cerebral hemorrhages, seizures, heart failure or pulmonary edema.<sup>1</sup> The most common causes of autonomic dysreflexia are noxious stimuli to the 1) bladder such as urinary tract infection, distension, or catheterization; 2) bowel, such as constipation or 3) skin such as wounds, or tight clothing. Though Foley catheters and intermittent catheterizations are well known causes of dysreflexia there is little literature about suprapubic catheters inappropriately inflated causing autonomic dysreflexia.<sup>2</sup>

## Case Description

The patient is a 60-year-old male with C7 AIS A SCI secondary to a motor vehicle crash in 2021 complicated by neurogenic bladder now with a suprapubic catheter (SPC) who presented to acute rehab for activities of daily living training. During his stay, he had an episode of hypertension (233/109) with associated diaphoresis, increased spasms and a “cold sensation behind [his] legs” occurring within one hour after an exchange of his SPC. At the time of exchange, the SPC was draining bright red blood and clots and flushing through the urethra. The patient was given topical nitroglycerin and sent to the Emergency Department for further evaluation. CT scan showed the SPC balloon inflated in the membranous/bulbous urethra. Urology deflated the balloon, retracted and replaced the SPC draining 1.2L of bloody urine leading to symptom improvement. Patient was evaluated by Urology who suspected a false passage in his bladder.

## Results

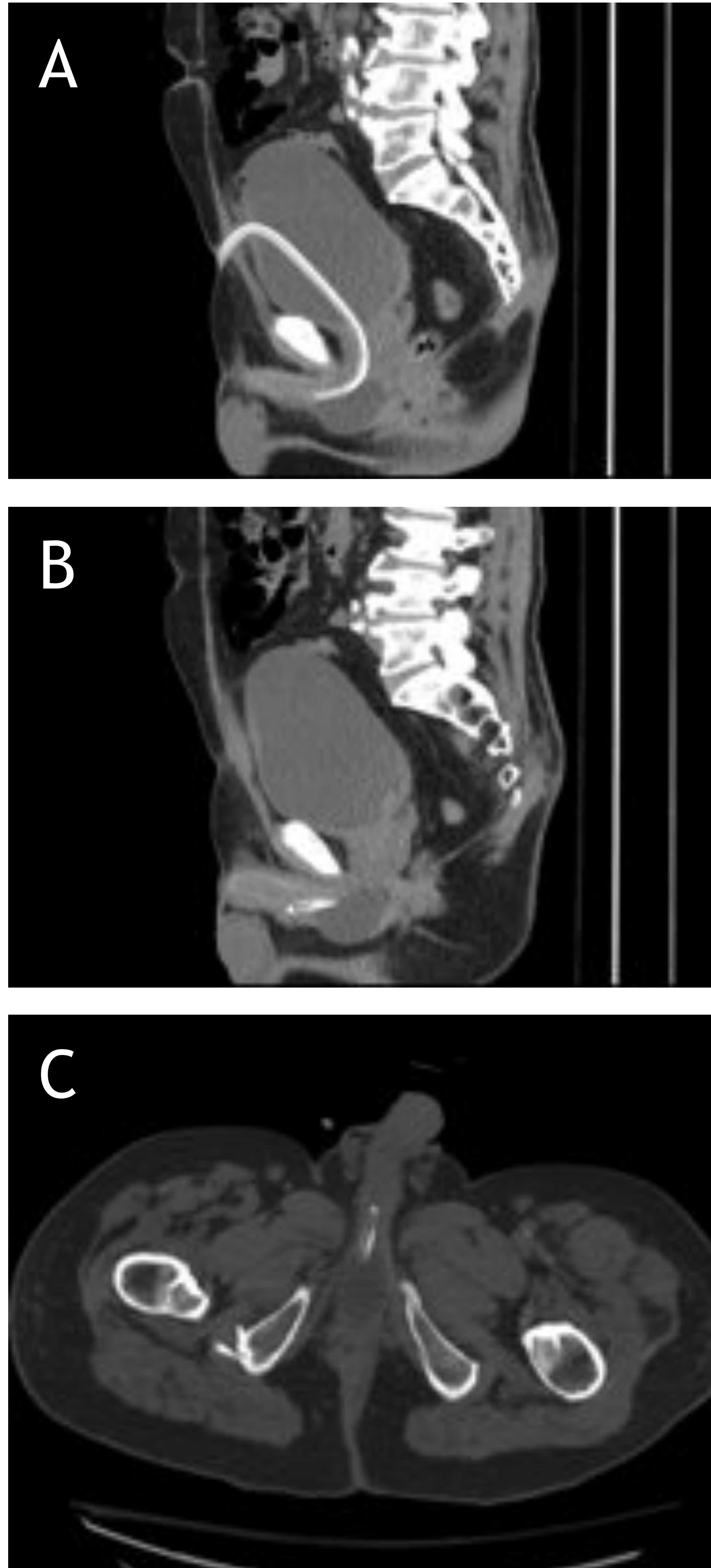


Figure A shows the SPC insertion as the catheter traverses through the bladder and into the urethra and figures B and C show the inflation in the membranous urethra.

## Discussion

This case demonstrates how inappropriate urethral suprapubic catheter inflation may act as a noxious stimulus for autonomic dysreflexia. Though there are few cases documented describing suprapubic catheter placement in the urethra; this case clearly illustrates the common symptoms, such as hypertension, diaphoresis, and spasms which resolved after the reversal of the inciting stimulus. This case also provides CT imaging to visualize the aggravating stimulus inducing the patient's autonomic dysreflexia. The patient's symptoms improved almost immediately after removal of the suprapubic catheter exhibiting how important immediate diagnosis is to prevent complications. It is imperative for the patient to follow with Urology for workup for suspected false passage to decrease the chance of inappropriate placement in the future.

## Conclusion

Autonomic dysreflexia is a common emergency in the SCI population that can often go unrecognized and may lead to stroke, MI, renal failure, and pulmonary edema. A skilled physiatrist can promptly recognize autonomic dysreflexia, identify the source and treat the cause. Bladder complications such as UTI, bladder distension, catheter misplacement and clogging are the most common causes of autonomic dysreflexia and though a urethral SPC placement is rare, it must be a part of the differential in patients with SPCs, especially after a recent placement or exchange.

## References

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