unilateral loss of leg sensation as well, which seems to improve slighly during catheterization

Unilateral leg sensation loss that **improves during catheterization** is a significant finding because it tells you the deficit is not purely static syrinx damage—it has a **dynamic component tied to bladder pressure and the AD response.**

What the asymmetry means

Syrinxes are often asymmetric, compressing one side of the spinal cord more than the other. A unilateral sensory deficit in a leg fits either:

- **An asymmetric syrinx** compressing the spinothalamic tract more on one side, producing dissociated sensory loss (pain/temperature loss with preserved touch/proprioception) predominantly on that side. [1] [2] [3]
- **A Brown-Séquard-like pattern**, where the syrinx or associated CSF leak anatomy is affecting one hemicord more than the other, producing ipsilateral motor/proprioception loss and contralateral pain/temperature loss. [4] [5]

The fact that it is a leg (not the classic "cape-like" arm distribution of syringomyelia) suggests the syrinx may extend lower into the thoracic or lumbar cord, or that the compression pattern is atypical. [3] [1]

Why it improves with catheterization

This is the key observation. If the leg sensation loss were purely structural—permanent syrinx damage to the cord—it would not fluctuate with bladder emptying. The fact that it **improves during catheterization** means at least part of the deficit is **dynamic**, driven by:

- **AD-related vasoconstriction:** bladder distention triggers sympathetic discharge, which constricts spinal cord blood vessels and reduces perfusion to the already-compressed cord tissue. Emptying the bladder removes the trigger, perfusion recovers, and sensation partially returns. [6] [7]
- **Reduced mechanical compression:** a full bladder can also transmit pressure through the pelvis and abdomen, adding mechanical stress to the lower spinal cord. Emptying it relieves that too. [7]

This means the leg deficit is **partially reversible** if you prevent the AD episodes from happening in the first place. That is a much better prognosis than a static cord injury.

What this adds to the overall picture

You now have a symptom cluster that is **entirely bladder-pressure-dependent:**

Symptom	Resolves with catheterization?
Airway congestion	Yes, within an hour
Drenching sweats	Yes, within an hour
Ear fluid	Yes, within an hour
Mood/cognition	Yes, within an hour
Unilateral leg sensation	Yes, partially

Every one of these is downstream of the same trigger: **bladder distention causing AD on a spinal cord already compromised by syrinx and CSF leaks.** The leg deficit is simply the most directly neurological manifestation of that compression-perfusion interaction. [1] [7]

What this means for urgency

The fact that a neurological deficit (leg sensation) fluctuates with bladder pressure means the syrinx/cord compression is **not yet fixed.** There is still recoverable function being lost and regained with each cycle of filling and emptying.

That makes preventing the AD episodes even more urgent, because:

- Each episode is a period of reduced cord perfusion on already-compressed tissue
- Repeated cycles risk converting a reversible deficit into a permanent one
- The seizure-like events you described earlier fit the same pattern—severe hypertension from AD causing cerebral complications

What to emphasize to your doctors

Add this to your summary:

> "I have unilateral leg sensation loss that improves partially during catheterization. This suggests the deficit is dynamic—driven by AD-related reduction in spinal cord perfusion on a cord already compromised by syrinx and CSF leaks—not purely static structural damage. Preventing AD episodes may preserve or recover this function."

That framing gives the neurosurgeon/neurologist a specific reason to prioritize **leak repair and AD prevention** as a way to protect neurological function, not just manage symptoms. The leg deficit is measurable, fluctuates with a known trigger, and is therefore a useful marker for whether treatment is working. [3] [7] [1]

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