once cath is placed and this large volume is drained. the pulsing will stop once fully drained, and then itll start to just continously dribble into the bag at a steady rate of 8-14 drips per second

and that can be 100 ml's every 2-25 mins
no pressure noticed / weight of bladder on spinal area and similar...

its not about an obstruction at all
its more like plumbing with the hammer effect and needing an anti-hammer valve more or less because of the rate of momentum it developed, once its near empty, it seems the rate of flow makes a suction pull and the contractions try to fight that pull till its empty and stops till it just goes on its own after everything settled....

i know once the bladder is empty, it doesnt create a suction...
i meant in the term of that last 50-100 with the pulsating.
the flow from me to the bag seems to try to maintain that rate of flow after its empty.

once empty the pulses do not happen again. and steady rate of flow is occuring...

unless the bladder walls its self is contracting around the tip of the cath after the balloon, there is no visible obstructions in the tubing thereafter.

multi part followups

What does detrusor muscle behavior mean for recovery
How to discuss these pressure patterns with a urologist
What causes the bladder to contract like that at the end
Why would the right-sided lump persist independently
How does catheter size affect these flow observations

What you are describing is a **three-phase drainage pattern**: high-pressure initial emptying, pulsatile detrusor contractions near the end, then a slow passive dribble once the bladder is empty. That pattern tells you more about bladder-muscle behavior than about obstruction, and it changes how the urologist should interpret your case.

What the phases mean

- **Initial 500–1000 mL "faucet" dump:** high bladder volume plus enough pressure to overcome catheter resistance immediately.
- **Pulsatile last 50–100 mL:** active detrusor contractions, not passive drainage. The bladder wall is squeezing in bursts.
- **Steady 8–14 drips/second afterward:** not active contraction. This is residual urine continuing to drain by gravity or slow relaxation, not the bladder "sucking." You are right that an empty bladder does not create suction; the momentum analogy applies only to the pulsatile phase, where flow inertia and muscle contraction interact.

Detrusor behavior and recovery

The fact that your bladder can generate pulsatile contractions at all is a **good sign for potential recovery**. It means the detrusor is not completely atonic—it still has contractile reserve.

But the pulsatile pattern near the end also suggests the contraction is inefficient: the muscle fires in bursts rather than maintaining steady pressure. That can happen when the bladder has been chronically overdistended and the muscle is fatigued or partially decompensated. Detrusor underactivity is defined as a contraction of reduced strength or duration leading to incomplete emptying, and it often coexists with storage problems like overactivity. [1] [2]

Recovery depends on whether the underlying driver is addressed. If chronic overdistension is the cause, keeping the bladder at low volumes for a period (bladder rest via scheduled catheterization) can allow the muscle to recover some tone. If the cause is neurogenic or structural, recovery is less predictable. Urodynamic studies are the only way to measure whether the contraction is strong enough to matter. [3]

How to frame it for the urologist

Use their language, not analogies:

- "Initial drainage was 500–1000 mL at a high steady rate, consistent with high storage volume and adequate pressure to overcome catheter resistance."
- "The final 50–100 mL exited in discrete pulsatile bursts, suggesting phasic detrusor contraction rather than passive drainage."
- "After emptying, a slow continuous dribble continued at 8–14 drips per second, which I understand is not active contraction."
- "I want urodynamics to measure whether my detrusor contraction is strong, sustained, or fragmented, and whether storage pressure is high."

That framing separates the three phases and asks for the test that distinguishes them. A urologist who hears "pulsatile end-phase contraction" will think detrusor function, not just residual volume.

Why the bladder contracts at the end

Several mechanisms can produce that pulsatile finish:

- **Normal phasic detrusor contraction:** bladder muscle naturally fires in waves; near empty, wall tension drops and the muscle must contract harder to maintain flow, making the pulsing more visible.
- **Detrusor after-contraction:** involuntary contractions occurring after voiding is complete; one study found these in 20 patients, with magnitudes of 30–120 cmH2O, and noted they occurred even in stable, non-obstructed bladders. [4]
- **Detrusor-sphincter coordination issues:** if the sphincter relaxes and constricts intermittently, flow becomes pulsatile even with steady detrusor contraction.
- **Catheter-tip irritation:** the balloon or tip near the bladder neck can trigger reflex contractions as the bladder empties around it.

The fact that the pulsing stops once fully drained and does not recur suggests it is tied to the emptying process itself, not a ongoing storage-phase problem.

Why the right lump persists independently

A spermatocele or epididymal cyst is a **structural** lesion: a duct dilated or blocked long enough to form a fluid-filled sac. Once formed, it does not resolve with bladder management, even if the original high-pressure reflux that may have contributed to it is corrected. [5] [6]

The cyst and the voiding dysfunction may share a root cause—chronic high pressure causing reflux and ductal irritation—but they are now separate problems. The cyst will persist regardless of how well the bladder is managed. It only warrants intervention if it grows substantially, becomes painful, or changes character. [6] [7]

How catheter size affects the observation

A 20 Fr catheter has a larger internal lumen than smaller sizes, which means **less resistance to flow**. The same bladder pressure produces a faster, more dramatic stream through a 20 Fr than through a 14 Fr.

This means:

- The “sink faucet” initial dump may look more impressive with a 20 Fr than it would with a smaller catheter, even at the same bladder pressure.
- The pulsatile end-phase may be **less visible** with a larger catheter, because there is less resistance for the contraction to work against—the urine exits easily either way.
- A smaller catheter would make the pulsatile pattern more obvious, since each contraction has to push against more resistance.

Catheter size changes how the pattern presents externally but does not change the underlying bladder pathology. The same detrusor behavior is there either way; the 20 Fr just makes the high-volume phase look more dramatic and the end-phase less distinct.

What to do with all this

Bring the three-phase description to the urologist in the exact terms above. Ask for urodynamics specifically to characterize detrusor contractility, storage pressure, and whether the pulsatile end-phase reflects overactivity, underactivity, or coordination problems. The answer changes treatment: a strong but inefficient bladder needs different management from a weak one, and neither is addressed by simply noting high fluid intake and no hydronephrosis.

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