

Objective

Reflex anuria (RA) is a rare cause of postoperative anuria that can lead to acute renal failure(ARF). Bilateral prophylactic ureteric stenting (PUS) is cited as one of the causes of RA.

There is an increasing trend towards PUS for complex gynecological surgeries[3]. We aim to add further to current literature.

Case Report

A 51-year-old woman had bilateral PUS followed by total abdominal hysterectomy and bilateral salpingo-oophorectomy for large leiomyoma.(Fig 3) There were no intraoperative complications. Stents were removed at conclusion of surgery. She developed ARF on the second postoperative day presenting as anuria-oliguria with a significant rise in creatinine levels.(Fig 1) Ultrasound revealed normal kidneys and empty bladder. No organic pathology was evident. Therapeutic ureteric re-stenting was considered whilst being managed conservatively. On the third postoperative day, urine output started to improve, eventually resolving ARF without any further intervention.

Timeline

Preop	• 51 years P2 with large symptomatic fibroid
Intraop	• Uneventful surgery,24 wks size fibroid, omental and bowel adhesions to left pelvic wall
Day 1	• Good urine output , hematuria, developed pyrexia, antibiotics commenced
Day 2	• Anuria for 12 hours, fluid challenge with no response, imaging normal, renal functions deranged. Plan for therapeutic ureteric cannulation if no improvement seen
Day 3	• Urine output started to improve spontaneously with resolving hematuria and improving renal function tests
Day 4	• Diuresis with return of renal functions to normal

Intervention

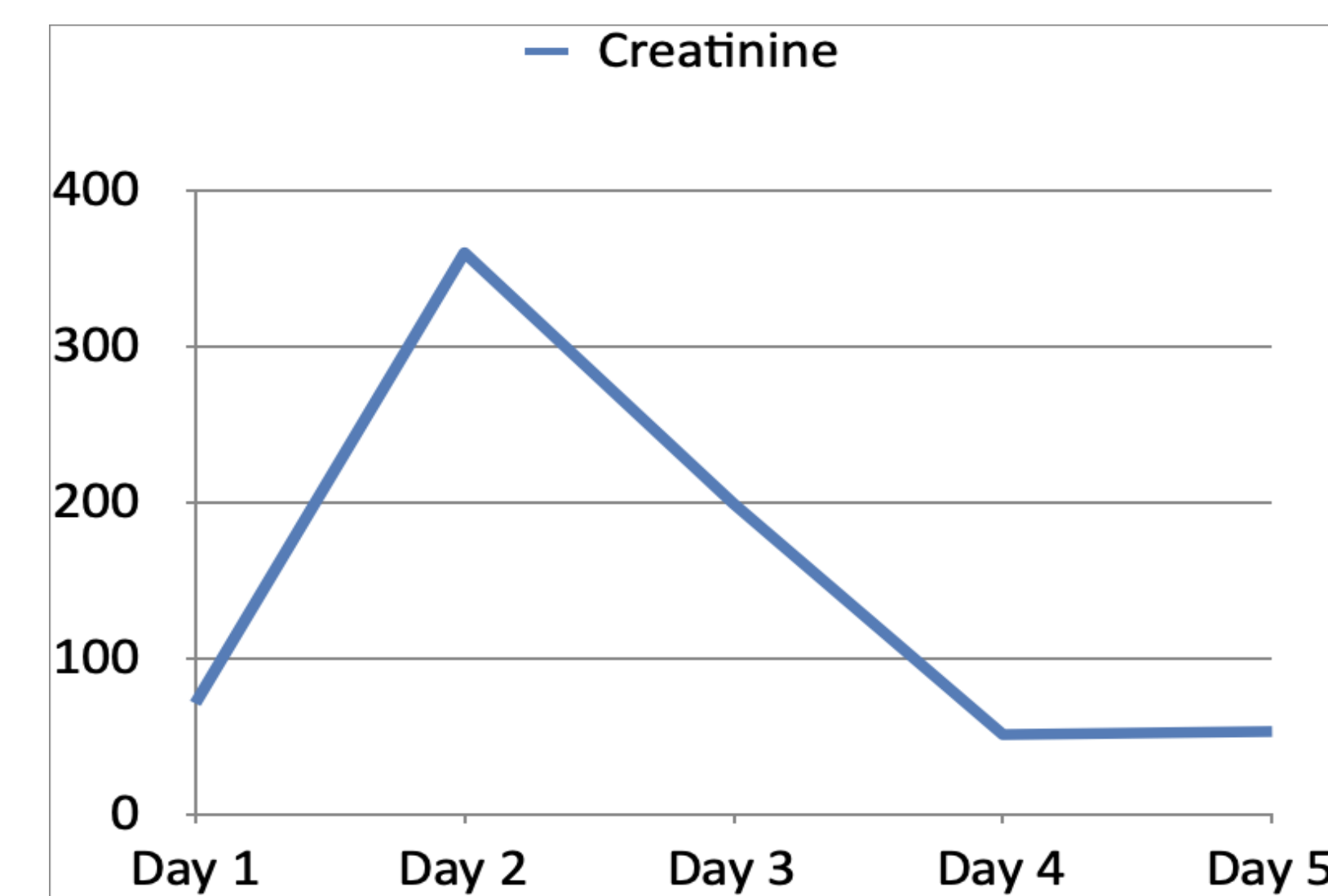
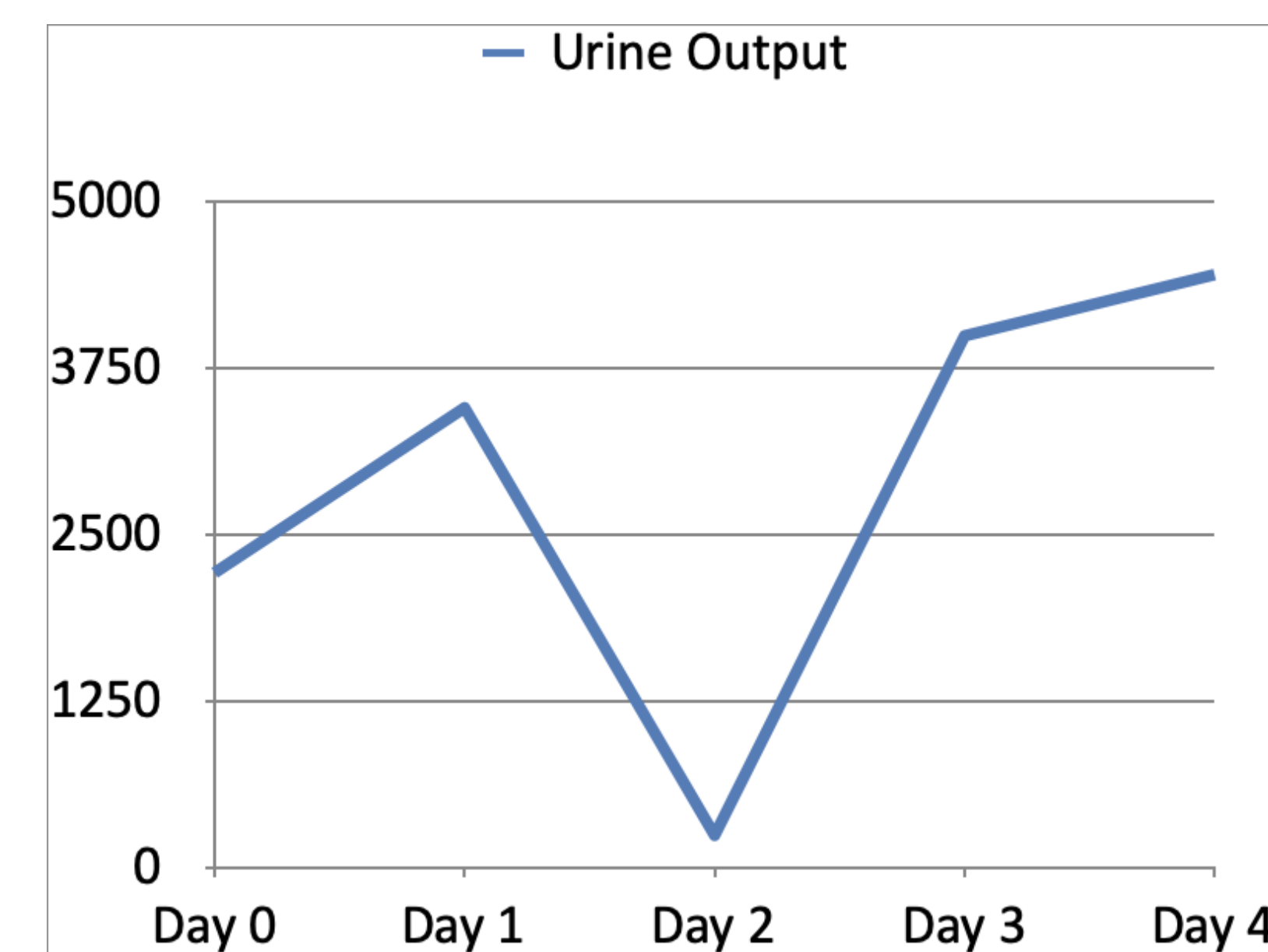
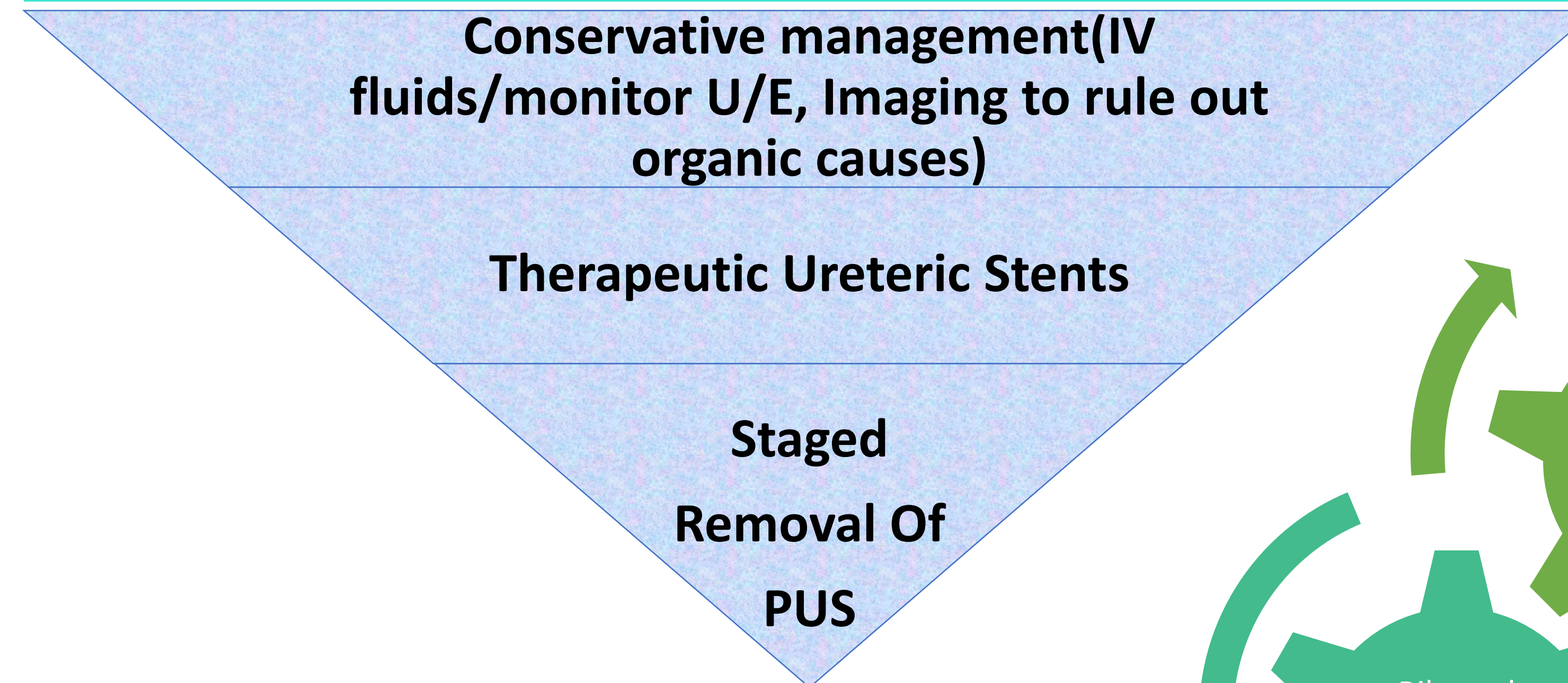


Figure 1: Urine Output/Creatinine

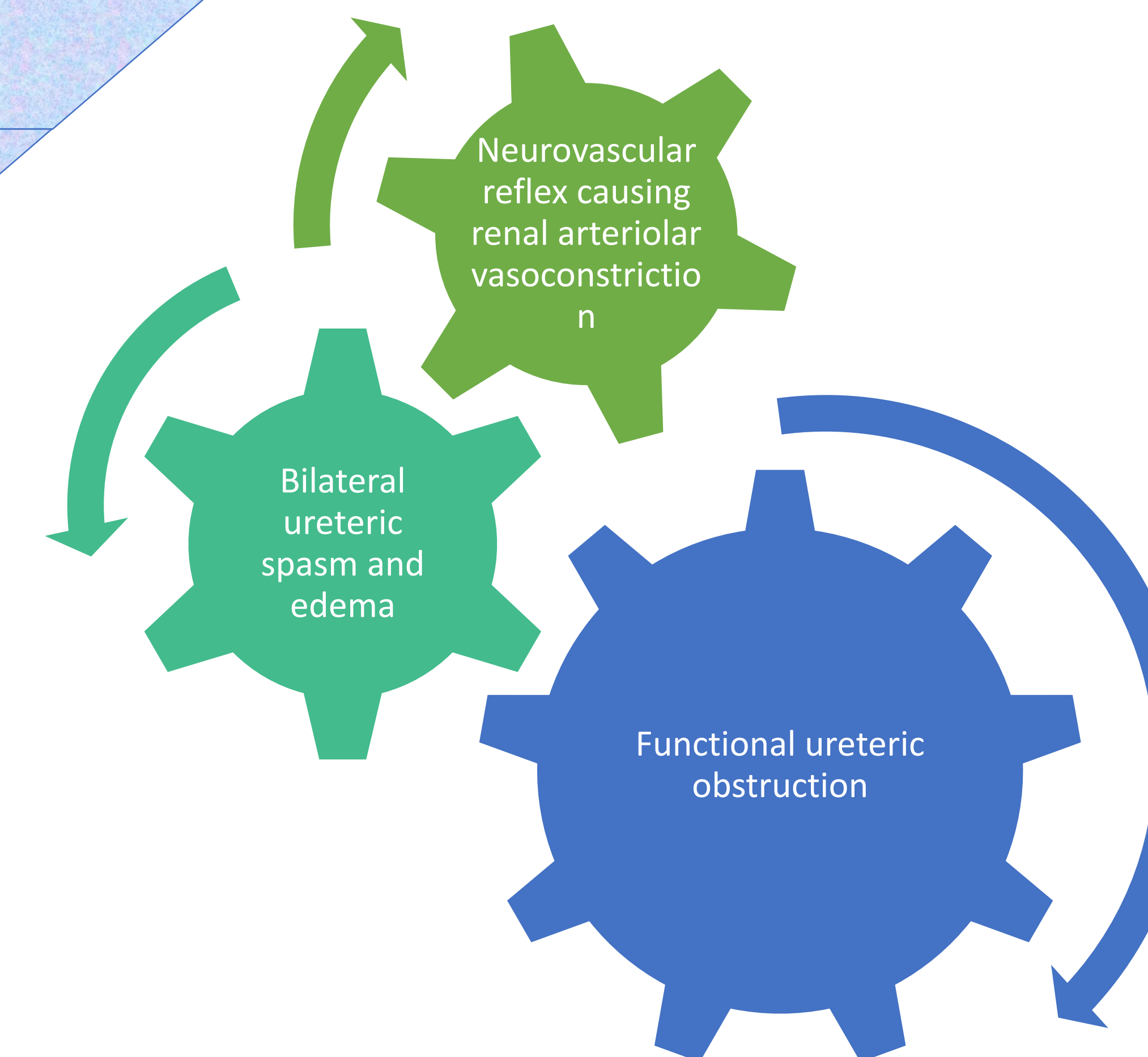


Figure 2:Mechanism of Reflex Anuria



Figure 3:MRI pelvis showing Fibroid uterus

Discussions

RA is a diagnosis of exclusion and should be considered when no obvious cause of ARF is found in postoperative patients who underwent PUS during gynecological surgery. A retrospective review of 25 patients who underwent PUS prior to complex benign gynecological surgery at OLOL Hospital Drogheda, Ireland, from 2016-2022 was performed. Only one (4%) developed postoperative anuria. PUS helps in early identification of ureteric injuries but can result in complications such as RA, urinary tract infections, macro-hematuria and fever. The pathogenesis of RA is not clear. Neuro-vascular reflex, causing renal arteriolar vasoconstriction and bilateral ureteric spasm and oedema causing functional obstruction are the two hypotheses that have gained acceptance.(Fig 2)[1]. RA has been reported to resolve spontaneously with conservative management and or by placing therapeutic ureteric stents. To reduce the possibility of reflex anuria, staged removal of stents over a 24-h period or longer should be considered.[2]

Conclusion



References

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3. Merritt, A.J., Zommere, I., Slade, R.J. et al. Oliguria after prophylactic ureteric stenting in gynaecological surgery—a report of three cases and review of the literature. Gynecol Surg 11, 23–26 (2014).