

## Pyelointerstitial, Pyelovenous, and Pyelosinus Backflow During Retrograde Pyelography

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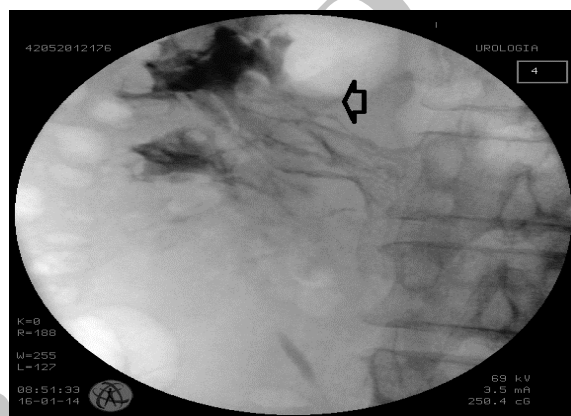
**Keywords:** backflow; percutaneous nephrolithotomy; pyelovenous; pyelosinus.

A 65-year-old male was admitted to the hospital for percutaneous nephrolithotripsy because of a stone in the pelvis of the right kidney. During the retrograde pyelography a very discreet pyelointerstitial backflow, and a massive backflow to the main renal vein was seen (**Figure 1**). About one minute after first injection of the contrast medium, pyelovenous backflow was no more observed, while pyelosinus backflow was clearly present (**Figure 2**). Repeated injection of small amount of contrast medium resulted in almost immediate pyelovenous backflow, and persistent pyelosinus backflow (**Figure 3**).

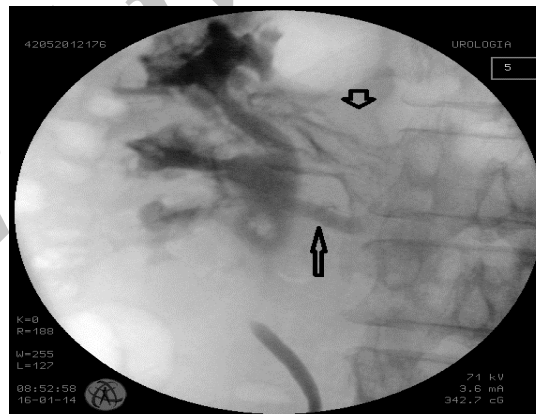
For fear of massive absorption of irrigation fluid during percutaneous procedure, a classic open pyelolithotomy was performed. The patient was discharged from hospital on the sixth day after surgery. Pyelovenous backflow is rarely discussed in the literature. Static radiographs rarely catch this quick moving event.<sup>(1,2,3)</sup>



**Figure 1.** Pyelointerstitial backflow during retrograde pyelography, seen as wedge-shaped striated area of blush extending from a calyx (arrowhead). Pyelovenous backflow showed massive flow of contrast agent into the main renal vein (thick arrow).



**Figure 2.** Pyelosinus backflow (headarrow) after retrograde pyelography. Contrast entered the renal sinus and obscured the renal collecting system.



**Figure 3.** Pyelovenous backflow (arrow) and pyelosinus backflow (headarrow) during retrograde pyelography, could be seen at the same time.

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