

Urinary Tract Calculi in the Patients with Spinal Cord Injuries



Behzad Saberi^{1*} and Behrouz Saberi Tehrani²

Medical Research, Iran

Submission: May 22, 2019; Published: July 03, 2019

*Corresponding author: Behzad Saberi, Medical Research, Iran

Mini Review

Upper urinary tract calculi will be developed in approximately 6 percent of the patients with spinal cord injury with a male to female sex ratio of 5:1. Many calculi are diagnosed within two years of injury. Urinary infections specifically with proteus species have an important role in calculi genesis in patients with spinal cord injury. Upper urinary tract calculi formation rarely occurs in patients with lesions below L1 level. Routine radiography can determine about 80 percent of calculi. Increased peripheral somatic spasm, hematuria and hypertension should raise the index of suspicion and cause more search to diagnose upper tract calculi. Uretric and renal pain is not common presentation in these patients. Small and single calculi are more common in patients with spinal cord injury than multiple ones and the radiolucency rate for them is 4 percent in comparison with 10 percent in general population. Common complications of such calculi are obstruction, infection and loss of renal function [1-5].

Presence of spinal deformity, abnormal cardio regulatory responses and borderline respiratory function specifically in tetraplegic patients would be some obstacles in the surgical treatment of calculi in the patients with spinal cord injury. Percutaneous electrohydraulic or ultrasonic lithotripters and ureterorenoscopy and endoscopic extraction of calculi can be used in these patients. If there would be recurring infection, threatened renal parenchymal integrity, evidence of increasing in calculi sizes, calculi induced obstructions and poor compliance by

the patient, intervention is recommended. At spinal cord injury centers, percutaneous endoscopic surgery and transurethral endoscopic surgery can be done but extracorporeal lithotripsy should be done at a urological stone center [6-9].

References

1. Geisler WO, Jousse A T, Wynne Jones M, Briethaupt O J (1983) Survival in traumatic spinal cord injury. *Paraplegia* 21: 364-373.
2. Chaussy C, Schmiedt E (1983) Shock wave treatment for stones in the upper urinary tract. *Urol Clin North Am* 10: 743-750.
3. Gardner BP, Parsons KF, Soni BM, Krishnan KR (1985) The management of upper tract calculi in spinal cord damaged patients. *Paraplegia* 23(6): 371-378.
4. Huffman J L, Bagley O M, Schoenberg HW, Lyon ES (1983) Transurethral removal of large ureteral and renal pelvic calculi using ureteroscopic ultrasonic lithotripsy. *J Urol* 130(1): 31-34
5. Gardner BP, Parsons K F, Machin D G, Galloway A, Krishnan KR (1986) Urological management of spinal cord damaged patients: a clinical algorithm. *Paraplegia* 24: 138-147.
6. Brannen G E, Bush W H, Correa R J, Gibbons RP, Elder JS (1985) Kidney stone removal: percutaneous versus surgical lithotomy. *J Urol* 113(1): 6-12.
7. Berard E, Depassio J, Pangaod N, Landi J (1985) Self catheterisation; urinary complications and the social resettlement of spinal cord injured patients. *Paraplegia* 23: 386-388.
8. De Vivo MJ, Fine P, Cutter GR, Maetz HM (1984) The risk of renal calculi in spinal cord injury patients. *J Urol* 131(5): 857-860
9. Grundy O, Russell J (1986) ABC of spinal cord injury: urological management. *Br Med J* 292(6515): 249-253.



This work is licensed under Creative Commons Attribution 4.0 License
DOI: [10.19080/JOJUN.2019.06.555696](https://doi.org/10.19080/JOJUN.2019.06.555696)

**Your next submission with Juniper Publishers
will reach you the below assets**

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
(Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission
<https://juniperpublishers.com/online-submission.php>