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# ANTIBIOTICS AND ANTIBIOTIC RESISTANCE

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### **Aminoglycosides bladder irrigation for treatment of multidrug resistant organisms might be an option to treat complex cases of bacteriuria in the era of resistance and limited options**

**Statement of the Problem:** We are reporting a case of 51-year-old male with history of colectomy in 2013; followed in 2016 by laparotomy, bilateral ureteric stents, bladder repair complicated by vesicopouch fistula. He developed multiple Catheter related urinary tract infections with resistant organisms requiring multiple courses of antibiotics. He then had an extensive procedure: laparotomy, rectovesical fistula repair, revision of ileostomy, small bowel resection, urinary bladder repair and ureteric implants. He developed two episodes of Catheter Associated Urinary Tract Infections (CAUTI) Extended-Spectrum Beta-Lactamase (ESBL) and Carbapenem-Resistant *Enterobacteriaceae* (CRE) requiring two hospitalizations and intravenous antibiotics. He was treated with Intravenous Amikacin but given his above history we decided to try Amikacin bladder irrigation which was done every other day for one week. The patient recovered after his last episode and he is now infection free for the past 3 months.

**Materials & Methodology:** One report showed that two cases were treated in 2009, followed for one year after treatment with daily intravesical gentamicin; the patients remained asymptomatic and infection free with negative urine cultures. Another report intravesicular Amikacin irrigation was used for the treatment and prophylaxis of a patient with spina bifida and neurogenic bladder; the patient was treated successfully but developed another episode two months later was retreated with intravenous antibiotics and intravesicular amikacin irrigation.

**Findings:** A retrospective study done on children treated with gentamicin bladder irrigation from 1999 -2004 found that bladder irrigation with aminoglycosides is safe, none of the patients had a detectable serum gentamicin. Out of 80 patients 21(26%) had recurrent UTI 5 (24%) had gentamicin resistance.

**Conclusion & Significance:** In the Era of antibiotic resistance and limited options for complex urologic cases aminoglycoside bladder irrigation is worth trying especially in patients who have no options but to have an indwelling catheter for prolonged period. Further studies to prove the efficacy of this modality of treatment are needed.

### **Biography**

Siham M Mahgoub, MD, is a board certified Infectious Diseases Consultant in the American Board of Internal Medicine. She is a Member of the Infectious Diseases Society of America (IDSA) & the Society for Health Care Epidemiology of America (SHEA). She received Residency Training at Beth Israel Medical Center (Albert Einstein School of Medicine), and Infectious Diseases fellowship in New York Medical College, New York. She has solid experience in Infectious Diseases Consultation in the USA including judicious use of antibiotic and is interested in antibiotic resistance.

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### **Notes:**