

Adherence to the AUA penile prosthesis antibiotic prophylaxis guidelines in diabetic patients is associated with significantly higher risks of device infection

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Background

- Rates of postoperative infection after penile prosthesis implantation (PPI) range between 1-3%.
- Patients with diabetes mellitus (DM) are at increased risk for infection.
- Both AUA and EAU guidelines recommend antibiotic prophylaxis before PPI.
 - *No randomized trials that assess the efficacy of these recommendations
- AUA:
 - Aminoglycoside + Vancomycin or 1st/2nd generation Cephalosporin (Gentamicin + Vancomycin or Cephalexin)
 - *Alternative option includes EAU recommendations.
- EAU:
 - Aminopenicillin + Beta Lactamase Inhibitor (Ampicillin + Sulbactam)

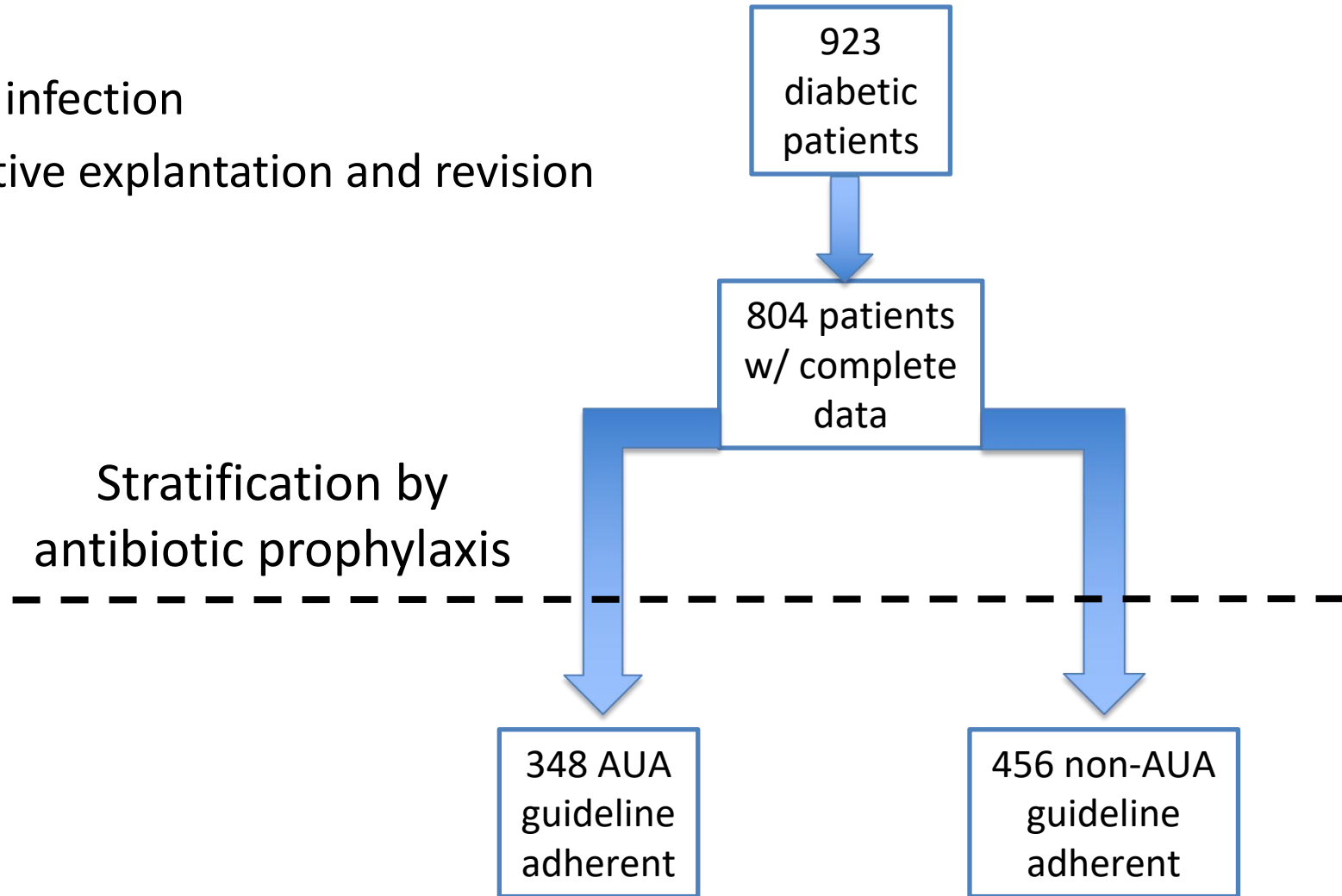
We sought to investigate the use of guideline adherent prophylaxis in preventing infection in DM men undergoing primary PPI.

Methods

1. Primary outcome: post-operative infection
2. Secondary outcomes: post-operative explantation and revision

“Adherence to guidelines” =
AUA recommendations w/out
additional agents

***None treated according to
EAU guidelines.**



Results

	AUA Guideline		Non-AUA Guideline		p
	348		456		
Demographics	Mean	SD	Mean	SD	
Pre-op Blood Glucose (mg/dL)	140	45	156	53	<0.001*
Hemoglobin A1C (%)	7.2	1.3	7.5	1.5	0.036
Age (years)	61.9	8.4	59.2	9.1	<0.001*
Body Mass Index (kg/m ²)	31.3	5.6	30.5	5.3	0.063
Duration of Diabetes (years)	12.5	8.6	12.9	9.2	0.786
Outcomes	N	%	N	%	
Infections	22	6.3	8	1.8	<0.001*
Explantations	29	8.3	9	2.0	<0.001*
Revisions	27	7.8	30	6.6	0.512

Results (continued)

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
<u>AUA Guidelines</u>	1.752	0.655	7.155	1	0.007	5.764	1.597	20.806
Preop A1c (cont.)	0.033	0.208	0.025	1	0.873	1.034	0.688	1.554
Preop Glucose (cont.)	-0.005	0.006	0.685	1	0.408	0.995	0.983	1.007
Age (cont.)	-0.028	0.028	0.961	1	0.327	0.973	0.92	1.028
DM-Related Complications	0.814	0.499	2.659	1	0.103	2.257	0.848	6.003
Approach	-0.585	0.766	0.584	1	0.445	0.557	0.124	2.499

6x greater risk of post-operative infection (OR: 5.76, p = 0.007).

Infection Data

Out of 804 patients, 30 had a post-operative infection.



Breakdown of Cultures:

Gram Positive	Gram Negative	Anaerobic	Fungi
16 (73%)	7 (32%)	4 (18%)	3 (14%)

*30% of cultures grew multiple organisms.

Most commonly isolated organisms:

Staphylococcus species



6 Coag Negative (27%)

4 Staph Aureus (18%)

Conclusions

First line AUA guideline antibiotic prophylaxis was not as effective at preventing infections in diabetic patients compared to other regimens.

- **Need for broader coverage**
 - 32% of cultures with anaerobe or fungus not accounted for in current guidelines.
- **Increasing microbial resistance**
 - Superselection for certain microbials due to antibiotic impregnated implants
 - Addition of a fluoroquinolone reduced infection and explantation rates.
- **Inadequate dosing**
 - Most commonly isolated organism Staphylococcus should be covered by Vancomycin.
 - Weight based dosing of Vancomycin (15mg/kg)
- **Alternative regimens to consider**
 - Triple coverage with a fluoroquinolone that has anaerobe coverage
 - Utilizing a beta-lactamase inhibitor in combination with vancomycin
 - Addition of an antifungal in select patients at risk