

Retractable Foreskin Reduces Urinary Tract Infections in Infant Boys with Vesicoureteral Reflux



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INTRODUCTION

- Children with vesicoureteral reflux (VUR) are at risk for urinary tract infections (UTI)
- Circumcision reduces UTI risk in boys under 12 months of age
- Objective: to determine whether retractable foreskin reduces UTI risk in boys with VUR

METHODS

- Phimosis grade, circumcision status and UTIs were noted at each visit
- VUR grade, VUR laterality, and indication for voiding cystourethrogram were recorded
- Febrile UTIs confirmed with pyuria and single organism urine culture
- 2-year UTI incidence recorded based on the phimosis grade and circumcision status at the time of the UTI

RESULTS

- 31% (29 of 94) of boys had high grade (IV-V) VUR, with no difference in reflux grade across the phimosis/circumcision groups ($p=0.64$)
- Phimosis grade and circumcision status changed over time
- Foreskin status change reduced UTI rates
 - No boys who were circumcised (0 of 9) or whose phimosis decreased to grade 0-2 (0 of 15) after the initial visit developed a UTI during follow-up
 - Only 1 of 9 of boys whose phimosis decreased to grade 3 developed a UTI during follow-up

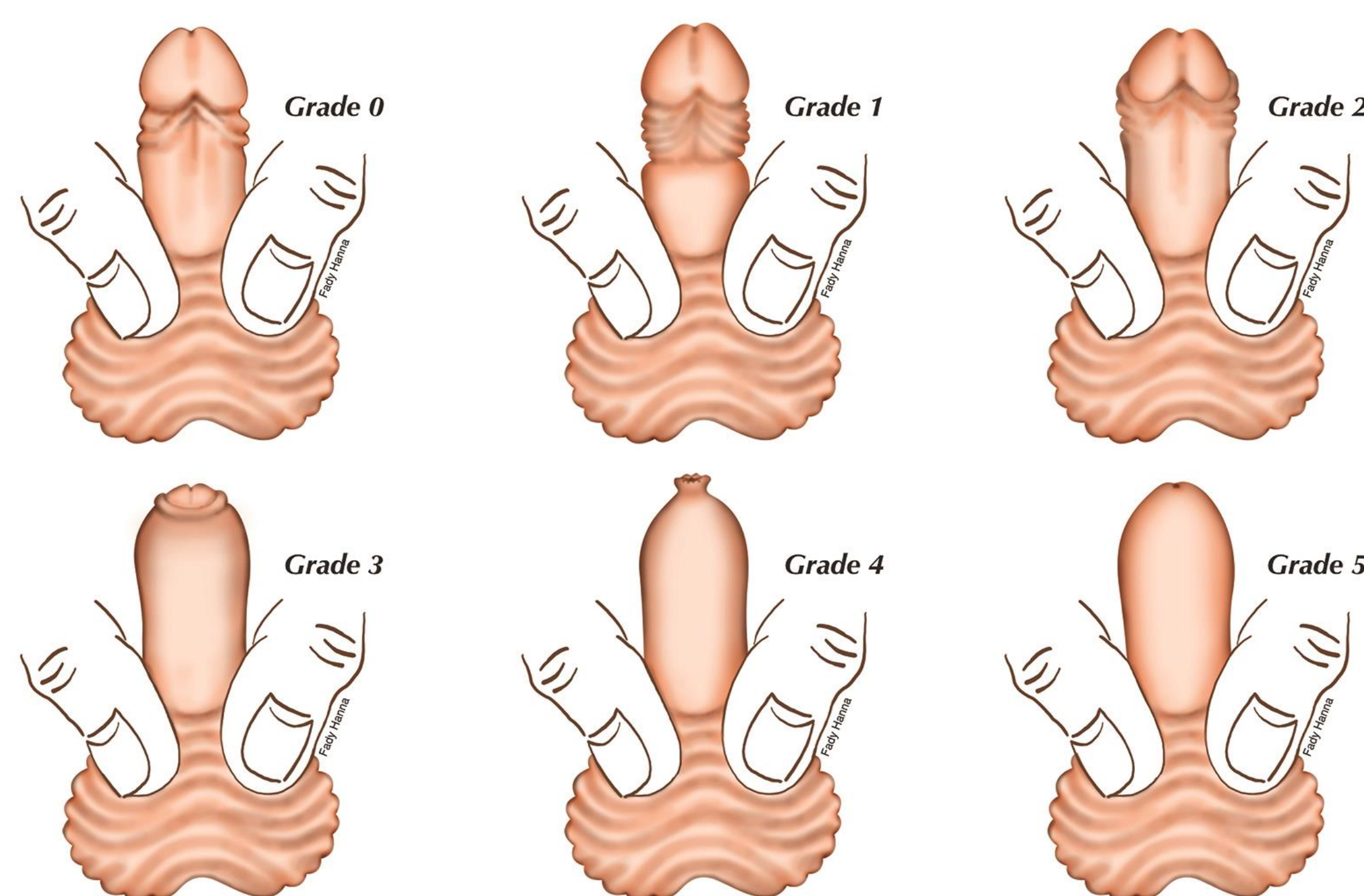
METHODS

- We prospectively followed 94 boys under 12 months old with VUR for a 2-year period
- Boys with foreskin were placed on continuous antibiotic prophylaxis and offered topical steroids with manual foreskin retraction

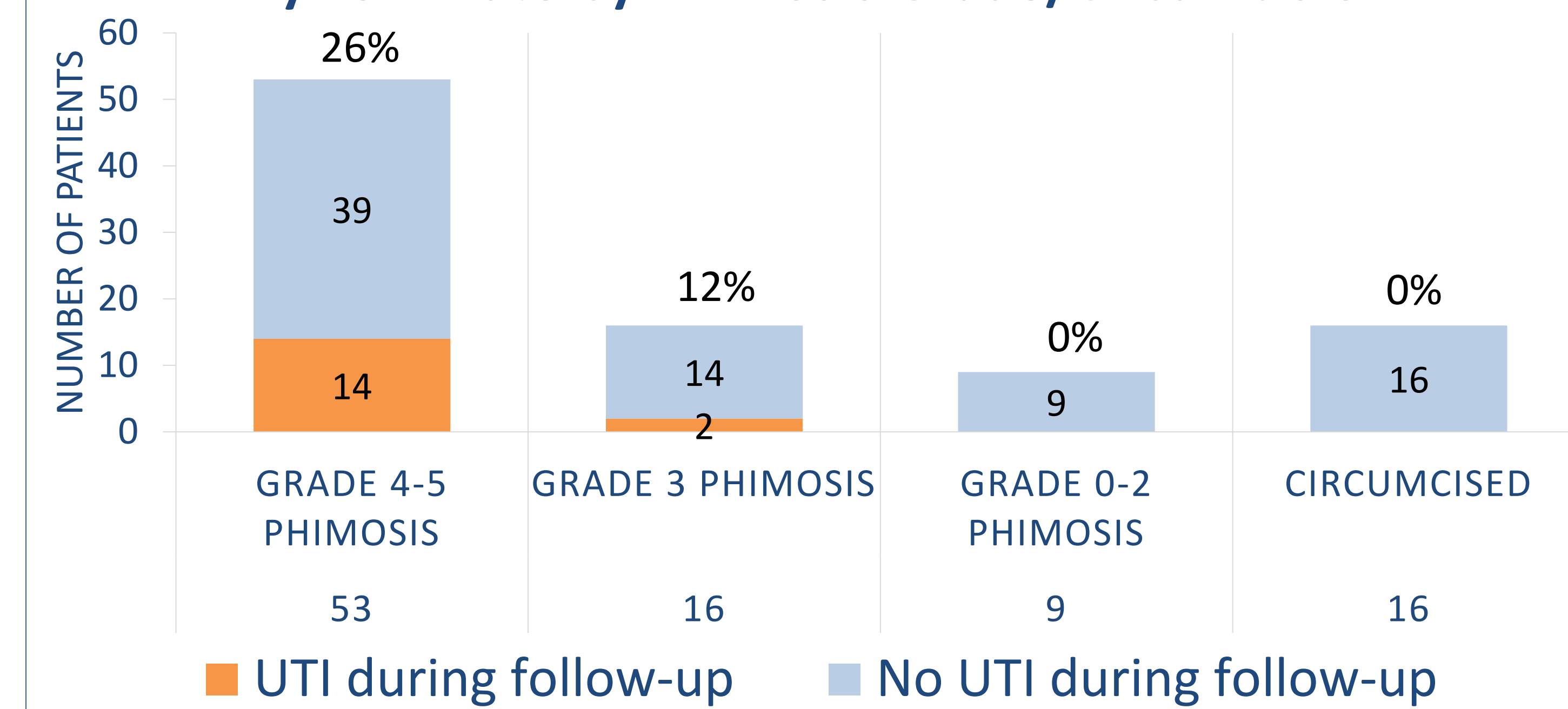
RESULTS

- 21% (16 of 78) of uncircumcised boys with VUR developed a UTI compared to no (0 of 16) circumcised boys ($p=0.04$)
- 2-year UTI rate decreased with decreasing phimosis grade ($p=0.03$)
 - None (0 of 9) of the boys with phimosis grade 0-2 had UTI
 - 12% (2 of 16) of boys with phimosis grade 3 had UTI
 - 26% (14 of 53) of boys with phimosis grade 4-5 had UTI

Phimosis Grading System



2-yr UTI Rate by Phimosis Grade/Circumcision



CONCLUSIONS

- Phimosis grade is an independent risk factor for UTI in boys under 12 months with VUR
- Phimosis is a modifiable risk factor to reduce UTI rates
- Retractable foreskin offers similar UTI risk reduction compared to circumcision in boys under 12 months with VUR