Urodynamic profile in posterior urethral valve patients following fulguration: Does age at fulguration matter?

Abstract

Introduction: Children with posterior urethral valve (PUV) may develop urinary bladder (UB) dysfunction even after valve fulguration (VF). Using Urodynamics (UDS), we sought to identify whether age at VF and time elapsed since VF contributed to UB dysfunction.

Materials and methods: Between January 2009 and July 2016, 39 PUV patients referred to a tertiary care center for UDS were classified into Groups A and B (based on age if <2 or ≥2 years at VF) and subclassified into Group A1/A2 and B1/B2 depending on time duration after VF (TVU). A1 and B1 constituted TVU ≤4 years and A2 and B2 constituted TVU >4 years, respectively.

Results: Median (range) ages at VF and UDS were 18 (1-108) months and 9 (1-19) years. Median (range) time between VF and UDS was 60 (6-164) months. Reduced compliance was seen in 67%, detrusor overactivity in 38.5%, and leak in 15.4% boys, respectively. Median (range) Q_{max} was 8 (0-28) ml/s and 25% boys had hypocontractile detrusor at voiding. Statistically significant reduction was found in compliance when comparing Group B versus Group A ($P = 0.037$) and in bladder capacity ($P = 0.002$) and compliance ($P = 0.043$) in Group A2 versus A1.

Conclusions: Boys with VF at <2 years had better urodynamic profiles than those with fulguration over 2 years of age. As the time period since fulguration increased, there was a higher incidence of bladder dysfunction in both the groups.