

## THE SIGNIFICANCE OF THE MODIFIED GALLOWAY BLADDER HOSTILITY SCORE IN THE LONG TERM FOLLOW-UP OF ADULT SPINAL CORD INJURY PATIENTS.

### Hypothesis / aims of study

The Galloway Bladder Hostility Score [GBHS] is a scoring system using 5 measurable variables, first described in myelodysplastic children [1]. It is widely utilized either in its entirety or some of its components, to predict the long-term effects of neurogenic bladders on the upper renal tracts especially in children [2]. The GBHS is examined to test its significance as a prognostic indicator in the long term follow-up of adult spinal cord injury [SCI] patients living in a rural setting.

### Study design, materials and methods

Sixty-five SCI patients living in rural areas, aged 39-60 years were studied. Average time since injury was 20 [7-31] years. All patients were male and had been injured in mining accidents. The SCI levels varied from T4 to L1. All patients were living at home in the rural areas and were medically evaluated annually as part of their follow-up contract with the employer.

All patients had the following recorded on an annual basis: systolic blood pressure [BP], serum creatinine levels, renal ultrasound and all underwent standard 2 channel filling cystometry. In each patient the presence and strength of abnormal detrusor contractions, leak point pressure, bladder compliance and presence or absence of detrusor external sphincter dyssnergia were determined.

Videocystography was not done due to absence of facilities.

Each patient was scored from 0-8 according to their latest findings on filling cystometry, according to the GBHS.

The patients were divided into two groups according to their GBHS levels. Group A scored 0-4 and Group B scored 5-8. The two groups were then compared as to their latest systolic BP levels, serum creatinine levels and renal ultrasound findings.

### Results

There were 27 patients in Group A and 38 patients in Group B.

The average age for Group A was 53 [43-60] years and SCI levels T8-L1 [60% incomplete]. The average age for Group B was 50 [39-64] years and SCI levels T4-L1 [61% incomplete].

In Group A the average systolic BP was 137 [98-220] mm Hg, serum creatinine level 79  $\mu\text{mol/l}$  [41-121] and ultrasound apparent renal scarring occurred in 37%.

In Group B the average systolic BP was 138  $\mu\text{mol/l}$  [119-180] mm Hg, serum creatinine level 80  $\mu\text{mol/l}$  [55-171] and ultrasound apparent renal scarring occurred in 28%.

### Interpretation of results

In this group of adult SCI patients there was no significant difference between the two groups and the Modified Galloway Bladder Hostility Score did not predict the long-term outcomes of their upper urinary tracts.

### Concluding message

The Galloway Bladder Hostility Score does not seem to have the same predictive power regarding the long term prognosis of the upper urinary tracts of adult SCI patients as it has in children with myelodysplasia. It should be used with great caution in life expectancy estimates in adult SCI patients when performing quantum monetary compensation calculations. Independent life expectancy studies tend to confirm this as a hostile bladder does not feature as a specific risk factor in recent authoritative publications.

### References

1. J Urol [1991] 145; 535-537.
2. J Urol [2004] 172[3]; 1092-1094.
3. Arch Phys Med Rehab [2006]; 1079-1085

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**HUMAN SUBJECTS:** This study was approved by the The Ethics committee of the University of KwaZulu Natal, Durban, South Africa. and followed the Declaration of Helsinki Informed consent was obtained from the patients.