

## FLOW INDEX, A POSSIBLE INDICATOR OF VOIDING FUNCTION IN PATIENTS WITH LUTS, INCLUDING THOSE POST TURP?

### Hypothesis / aims of study

Uroflowmetry is an established part of the initial assessment of any patient presenting with LUTS. While it has valuable information to contribute to the evaluation of such patients, it's main limitation (an opinion widely held) is that it cannot by itself, differentiate between bladder outlet obstruction and an underactive detrusor. However some authorities feel that Qmax or uroflowmetry in general can predict BOO. (1,2,3) This study aims to address this question assessing whether the 'Flow Index (Fi) comprising the value Qave/Qmax can help the urologist distinguish to some extent, between these two entities supported by other clinical parameters.

The main aim of this study was to assess the relationship if any, between the 'Flow Index (Fi)' which is the ratio of the average flow (Qave) to the maximum flow (Qmax) on uroflowmetry and the Abram-Griffiths number (A/G #). Another objective was to study the relationship between the Fi the Bladder Contractility Index (BCI).

### Study design, materials and methods

Data was collected from urodynamic tracings of 48 patients over a period of 1 year. A Medtronic® urodynamic machine was used to obtain the tracings. All the tracings used were screened to ensure that they were of good quality and complied to standards set by the International Continence Society. Tracings that were not of sufficiently good quality were discarded. The Flow Index 'Fi' was derived from the ratio of the average flow (Qave) to the maximum flow (Qmax); The corresponding A/G # and the BCI values were obtained and all the data was recorded on an Excel® spreadsheet.

### Results

There seems to be an association between an Fi of  $< 0.5$  and an A/G #  $< 40$ . There also seems to be a similar association with a BCI  $< 100$ . With Fi values  $> 0.5$  there does not appear to be any relationship to A/G values however there may be one to BCI values. However these values did not reach statistical significance (Pearson's Chi-squared test) However there was a significant linear correlation between the Fi and BCI. ( $p=0.044$ ) but the observed correlation coefficient  $r$  is low at  $-0.292$  which suggests the higher the Fi the lower the BCI

### Interpretation of results

The study population is small and a study with a larger population is needed to further define these relationships. The Flow Index (Fi) may provide indirect information about detrusor contractility. Although the correlation coefficient  $r$  was low at  $-0.292$ , this may be indicative of the small sample size. With a larger study population and in the setting of a randomized prospective analysis, this relationship may be further defined. This may be especially useful in post-TURP patients.

### Concluding message

Flow indices (Fi), and Uroflow parameters in general may be of value in helping us to predict which patients may and may not have either bladder outlet obstruction or impaired detrusor contractility based on urodynamic criteria.

### References

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### Disclosures

**Funding:** Self-funded **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Ethical Committee Clinical Research Center, Selayang Hospital, Malaysia **Helsinki:** Yes **Informed Consent:** No