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# POLYOMAVIRUS BK – A POTENTIAL NEW THERAPEUTIC TARGET FOR PAINFUL BLADDER SYNDROME/INTERSTITIAL CYSTITIS?

Hypothesis / aims of study

To correlate the level of urinary BK polyoma virus (BKPyV) with clinical findings and treatment outcomes, in patients with painful bladder syndrome/interstitial cystitis (PBS/IC).

Study design, materials and methods

Urine samples were collected from 15 patients with PBS/IC and 8 control patients (with other pelvic pain syndromes, urolithiasis, overactive bladder and benign prostatic hyperplasia). BKPyV titres were quantitatively determined using real time PCR. The PBS/IC patients subsequently underwent cystoscopy, hydrodistension and bladder biopsy. Finally, a chart review was performed in order to correlate PBS/IC subtype and treatment outcomes with BKPyV status.

Results

Positive BKPyV titres were found in 11 out of 15 PBS/IC patients but none of the controls. Cystoscopy was performed in 13 of the 15 PBS/IC patients (in 2 BKPyV positive patients, cystoscopy was not performed). Bladder ulceration and glomerulations were observed in all 9 BKPyV positive PBS/IC patients but only 1 out of 4 BKPyV negative patients (Figure 1). None of the non-ulcerative PBS/IC patients had BKPyV positive urine. Viral titres were not predictive of the clinical course however, 3 patients with the highest viral titres eventually underwent cystectomy.

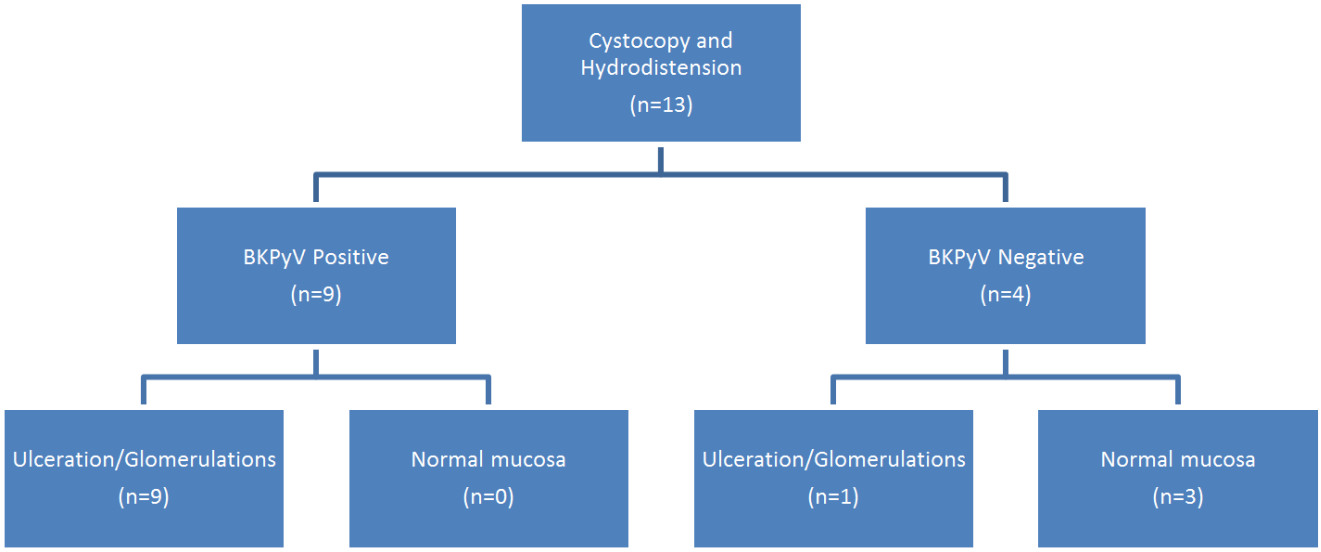
Interpretation of results

We identified BKPyV in the urine of virtually all our patients with ulcerative PBS/IC. This finding suggests there may be a pathophysiological association between the virus and the haemorrhagic manifestations of PBS/IC. Classifying PBS/IC patients into BKPyV positive or negative groups may prove useful in future research on markers of disease prognosis and the subtypes of PBS/IC.

Concluding message

We believe that BKPyV may therefore have a role as a potential therapeutic target in PBS/IC.

Figure 1. Bladder mucosal findings following cystoscopy and hydrodistension.




Disclosures

**Funding:** None **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** The data was gathered by case note review and no additional investigations or interventions were performed. **Helsinki:** Yes **Informed Consent:** Yes