

WHICH FACTORS CHARACTERISE A PATIENT WITH OVERACTIVE BLADDER?

Hypothesis / aims of study

The overactive bladder syndrome (OAB) consists of urgency, with or without incontinence, usually accompanied by frequency and nocturia. The previous characterization of OAB patients has largely been based upon the counting of episodes per day or week for each of those symptoms. We have now used correlation and factor analysis in a large database of OAB patients to better characterise such patients.

Study design, materials and methods

In order to yield results which are useful for routine use, we have based our post-hoc analysis on a database which had been generated in an open-label, post-marketing observational setting. For this we have chosen the baseline data from a study performed in Germany involving 3824 OAB patients to be treated with the q.d. formulation of tolterodine (1). About one third of these OAB patients were continent. The number of urgency, incontinence, daytime micturition and nocturia episodes per 24 h was quantified in all patients. Three scales were used to additionally measure urgency and bother. One of them was a validated 3-point scale (“usually not able to hold urine”, “usually able to hold until I reach toilet”, “usually able to finish what I’m doing before going to toilet”) (2). A second validated scale asked the patient to rate the bother of the OAB symptoms on a validated 6-point scale (“my condition causes me no, few very minor, few minor, moderate, severe, many severe problems”) (3). A third scale asked patients how much their bladder problems limited their daily life activities on a visual analogue scale of 0 to 10 (none to very much). The data were used in Spearman-correlation analysis and factorial analysis with non-orthogonal varimax rotation.

Results

The frequency of the four OAB symptoms (urgency, incontinence, daytime frequency and nocturia) correlated only moderately well with each other ($r = 0.16-0.41$, daytime frequency and urgency having the strongest pair wise correlation) and with the two bother-related scales ($r = 0.26-0.37$). On the other hand, the two scales assessing bother, i.e. 6-point and the visual analogue scale, correlated much stronger with each other ($r = 0.72$). The 3-point scale correlated well with the number of incontinence episodes ($r = 0.58$).

The factor analysis identified four symptom complexes, i.e. “bother”, “incontinence”, “urgency/frequency” and “nocturia”, which together explained 81.9% of the total variance and correlated only moderately with each other (maximum $r = 0.36$). The factor “bother” had the strongest individual effect (accounting for 42.1% of the total variance) and correlated highly ($r > 0.9$) with the 6-point and the visual analogue scale, but only poorly to moderately with all other symptoms. The factor “incontinence” correlated highly ($r > 0.85$) with the number of incontinence episodes and the 3-point scale. The factor “urgency/frequency” correlated highly with the number of urgency and daytime micturition episodes ($r > 0.82$), whereas the factor “nocturia” correlated strongly only with the number of nocturia episodes ($r = 0.99$). The factors “incontinence” and “nocturia” increased with age, whereas the factors “bother” and “urgency/frequency” were largely age-independent. While the factor “nocturia” was more pronounced in men, all other factors had higher values in women. All factors increased slightly with the duration of disease history. When ignoring the factor “incontinence”, identification of the other three factors in the continent and incontinent groups was not markedly affected.

Interpretation of results

In a large sample of OAB patients assessed under real-life conditions, four symptom complexes can be identified by factor analysis. Since the four factors are only moderately well

correlated with each other, any given patient may be predominantly characterized by one or more of these complexes, whereas a very different situation may exist in another OAB patient.

Concluding message

We conclude that the counting of episodes of urgency, incontinence, micturition frequency and urgency only insufficiently describes OAB patients. Patient bother is the strongest individual factor but only poorly explained by counting of episodes of the four symptoms defining OAB. More complex tools, including bother-related scales, may be more appropriate to describe the rather heterogeneous OAB population.

References

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