

OVERACTIVE BLADDER AND THE PONS

Hypothesis / aims of study

Anatomical and physiological studies showed that micturition reflex is dependent on neural circuitry in the pons. Studies on neurogenic factor of overactive bladder focus to suprapontine and infrapontine centers. To our knowledge there are few studies evaluating pons in patients with idiopathic overactive bladder. The centers involved in the control of micturition, the medial and lateral regions of the pontine micturition center are in the reticular formation of pontine tegmentum and lies in close anatomical proximity to regions responsible for coordinating blink reflex.(1) Blink reflex is an ideal tool to demonstrate functions that are either integrated in, or mediated by the pontine structures(2,3)

Overactive bladder symptoms may be a result of a disorder in the pons. To reveal a pontine pathology in patients with idiopathic overactive bladder, we evaluated the blink reflex with electromyogram in patients with idiopathic overactive bladder and healthy controls.

Study design, materials and methods

A total of 60 women, 30 patients with idiopathic overactive bladder mean age of 51.90±5.29 years and 30 healthy controls mean age of 49.20±6.17 years were enrolled in the study. Subjects with any neuropathology or receiving medication that may disturb blink reflex excluded from the study. After the electrical stimulation of the supraorbital nerve two responses in the orbicularis oculi muscle; the early ipsilateral response (R1) and late bilateral response (R2) latency times were recorded.

Results

All of the latency times were significantly higher in patients with idiopathic overactive bladder than controls except right R1.(Table 1)

Interpretation of results

The results of the the present study suggests a significant relation between blink reflex latency times and overactive bladder.

Concluding message

In some patients, idiopathic overactive bladder may result from a pontine pathology or suprasegmental disorder affecting pons. This pathology may lead increased blink latency times and overactive bladder symptoms. In order to reveal this pathology in idiopathic overactive bladder patients, studies on other pons originated reflexes is needed.

Table 1: Latency times of blink reflex in controls and patients

group	N	Mean	Std. Deviation	p	power
RR1 CONTROL	30	11.21	1.275	0.163	0,282
OAB	30	11.65	1.17		
RR2i CONTROL	30	31.53	1.58	0.001	1
OAB	30	37.26	1.98		
RR2c CONTROL	30	32.71	1.95	0.001	1
OAB	30	37.45	1.86		
LR1 CONTROL	30	11.25	1.01	0.023	0,632
OAB	30	11.86	1.02		
LR2i CONTROL	30	32.25	1.79	0.001	1
OAB	30	37.12	2.20		
LR2c CONTROL	30	33.13	2.24	0.001	1
OAB	30	37.43	1.91		

RR1: Early right ipsilateral response

RR2i: Late right ipsilateral response

RR2c: Late right contralateral response

LR1: Early left ipsilateral response

LR2i: Late left ipsilateral response

LR2c: Late left contralateral response

OAB: Overactive bladder

References

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Disclosures

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