

WHAT KIND OF CHARACTERISTIC IS THERE FOR THE NEUROLOGIC DISEASE THAT OCCURRED BY A LOWER URINARY TRACT SYMPTOM?

Hypothesis / aims of study

Among the numerous types of neurological diseases, many are additionally complicated by LUTS. Diseases that are not urological and neurological diseases accounted for a 1.4% of all men, and the frequency of a neurological diagnosis was similar (<1.0%) for all the age groups except ≥ 70 years, where it increased to 3% 1). Previous study proved multiple system atrophy (MSA) and multiple sclerosis (MS) to be the most common neurologic conditions characterized by high LUTS complication rates 2). In order to reveal the neurological diseases that are likely to be overlooked during routine examination, we have already reported cases of patients with a history of visiting a urologist before the first visit of neurology 3). Therefore, we examined the neurologic disease that occurred in LUTS from them this time.

Study design, materials and methods

We performed retrospective analyses of 70 patients with histories of visiting the urological section before the first visit of neurology and being suspected of suffering from nervous system disorders (Group A) 3). In Group A, a period of LUTS onset and the associated symptom onset intended for 44 cases that were less than two weeks (Group B). The existence of urological treatment was not inquired of during the first visit. After establishing the neurological conditions involved, we considered the diagnoses by the urologist, LUTS, associated symptoms, urology treatment, etc. And we examine by comparing both groups. We also performed detailed examination on cases where UDS was performed before the first visit of neurology and on cases where surgery was performed.

Results

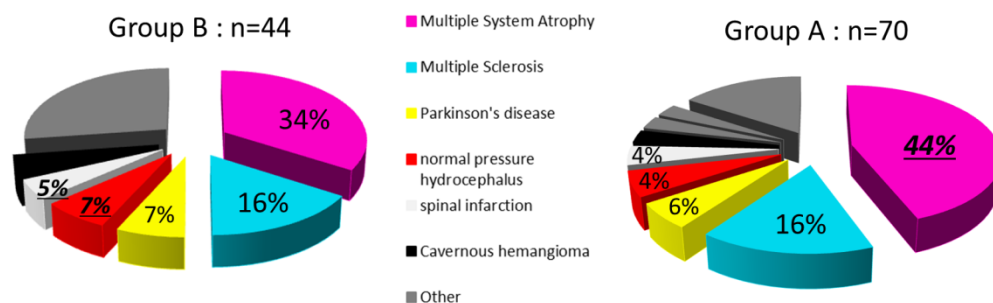


Fig. 1 : Classification of the neurological diseases

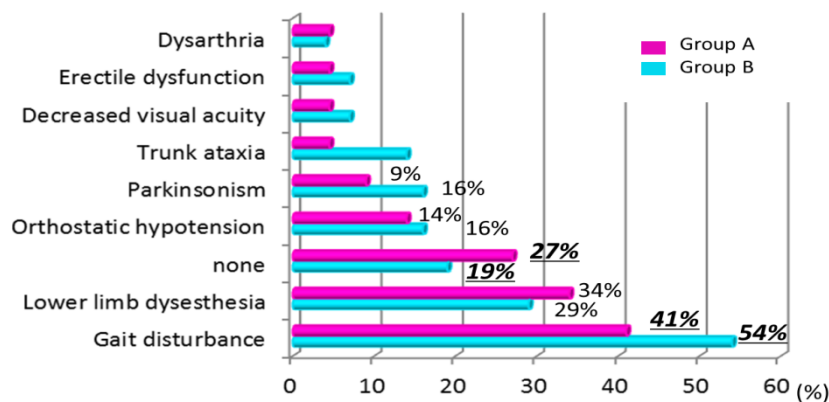


Fig. 2 : Classification of associated symptoms

Classification of the neurological diseases was shown at Fig 1. At the first urological visit, LUTS reported were dysuria in 36 cases (82%) (Group A: 54 cases 77%) including urinary retention (10) and urinary incontinence in 13 cases (30%) (Group A: 18 cases 26%).

Associated symptoms was shown at Fig 2. The prescribed urology treatment proved to encompass many conservative regimens: 17 cases (39%) of oral drug administration, 6 (14%) of urethral catheterization, and 6 (14%) of clean intermittent catheterization (CIC), while surgeries were performed on 8 patients (18%) (Group A: 10 cases 14%). In only 3 cases, patients were referred to a neurologist, as the existing symptoms combined with UDS findings suggested a neurological disorder, subsequently diagnosed as MSA.

Investigation of cases in which UDS was performed before the first visit of neurology

The 11 cases thus defined included 7 cases of MSA. UDS findings revealed 7 cases of decrease in bladder compliance and 11 cases of detrusor underactivity; no normal cases were observed. The investigated group included 4 cases in which LUTS

alone were observed upon the first urological visit. During the prescribed treatment, surgeries were performed on these 4 patients (TUR-P on 3 and TVT on 1) (Table I).

Table I. Investigation of cases with UDS performed prior to neurological examination

No.	final diagnosis	subjective symptoms	diagnosis	therapy at the first visit	UDS data					
					strage/bladder	strage/urethra	voiding/bladder	FDV	CC	PVR
1	MSA-C	SUI	SUI	TVT	low compliance	normal study	underactivity	unknown	195	225
2	MSA	dysuria	BPH,NB	TUR-P	low compliance	normal study	underactivity	unknown	151	300
3	Cavernous hemangioma	dysuria (*)	NB	CIC	low compliance	normal study	underactivity	93	160	(*)
4	MSA	dysuria	BPH	TUR-P	low compliance	normal study	underactivity	92	327	0
5	MSA	pollakisuria	BPH,prostatitis	oblocker	normal study	incompetent	underactivity	171	235	171
6	MS	dysuria (*)	NB	urinary catheterization	low compliance	normal study	underactivity	72	500	(*)
7	MSA-P	UUI	BPH,NB	TUR-P	low compliance	normal study	underactivity	97	112	61
8	MSA	dysuria,UUI	BPH,NB	oblocker	low compliance	normal study	underactivity	179	212	240
9	PD	pollakisuria,dysuria	BPH	oblocker	overactivity	normal study	underactivity	170	181	110
10	MSA-C	MUI	MUI	anticholinergic drug	overactivity	normal study	underactivity	89	135	70
11	spinal infarction	dysuria (*)	NB	CIC	normal study	normal study	underactivity	284	370	(*)

(*) urinary retention

SUI: stress urinary incontinence, UUI: urge urinary incontinence, MUI: mixed urinary incontinence, NB: neurogenic bladder

FDV: first desire to void, CC: cystometric capacity, PVR: post void residual

Investigation of cases in which surgery was performed before the first visit of neurology

The 8 surgical cases included 7 cases of MSA. On the first urological visit, the associated symptoms were not observed in 6 cases. Most of the remaining patients were primarily diagnosed with BPH (Table II).

Table II. Investigation of cases with surgeries performed prior to neurological examination

No.	final diagnosis	subjective symptoms	associated symptoms	diagnosis	therapy	urological first symptoms	
						~urologic consultation(Mo)	~diagnosis
1	HAM	pollakisuria,dysuria	none	BPH,NB	TUR-P	0.5	16
2	MSA	dysuria	none	BPH,NB	TUR-P	12	60
3	MSA-C	dysuria	none	BPH	TUR-P	3	30
4	MSA-P	UUI	none	BPH,NB	TUR-P	2	25
5	MSA-C	SUI	none	SUI	TVT	4	41
6	MSA	dysuria,UUI	UUI	BPH	TUR-P	4	24
7	MSA	dysuria	Orthostatic hypotension	BPH	TUR-P	3	48
8	MSA-P	dysuria (*)	Gait disturbance,Parkinsonism	BPH	TUR-P	11	18

(*) urinary retention

Interpretation of results

In this examination, it seemed that it was necessary to take normal pressure hydrocephalus and spinal infarction into consideration besides MSA. Moreover, the case that did not show an associated symptom increased, and it seemed that the diagnosis only for LUTS and an associated symptom was difficult. However, the results of the present study indicated that careful examination of medical history, accounting for LUTS in all their diversity and fluctuation, combined with UDS enforcement, might be of vital importance in the early and correct diagnosis.

Concluding message

The study suggests that integrated approach of urologist and neurologist can be beneficial in the early identification of disease, rationalization of the treatment, and avoiding the unnecessary treatment of patients. Therefore, it is necessary to have a checklist generated from the data of this study to enable early consultation with neurologist.

References

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3. Magari T, Fukabori Y, Ogura H and Suzuki K: Lower urinary tract symptoms of neurological origin in urological practice. Clin Auton Res. 2012 Oct 26.

Disclosures

Funding: In this examination, we do not receive the subsidy at all. **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** This report is the examination that is retrospective, and the permission of the ethical committee does not obtain it. However, we explain contents of this examination for the case that can be followed as much as possible and oral obtain its consent. We conformed to Helsinki Declaration and we considered human rights enough and examined this time. **Helsinki:** Yes **Informed Consent:** Yes