Diagnosis and treatment in Japanese patients with pediatric neurogenic bladder : 12 months follow-up Data from health insurance database

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Introduction

Pediatric neurogenic bladder

In addition to lower urinary tract dysfunction, pediatric neurogenic bladder (NGB) can cause urinary tract infections, vesicoureteral reflux, and associated renal failure.[1]

Background

Early diagnosis, urinary tract evaluation, and adequate urinary tract management are critical for the prognosis and quality of life of NGB patients, as the guidelines mentioned.[2]

Relatively few specialists are familiar with the diagnosis and treatment of pediatric NGB.[3]

It is still unclear how well the guidelines are being followed.

Objective

The purpose of this study is to clarify the current status of pediatric NGB diagnosis and treatment in the real world in Japan.

As a result, to clarify the importance of appropriate diagnosis and treatment according to the guidelines.

Methods and Materials

Patients

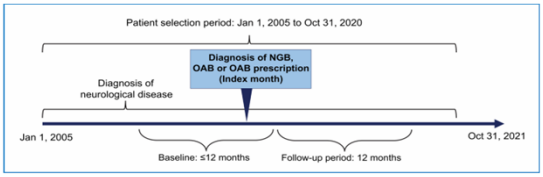
・This descriptive, observational, retrospective cohort study using the JMDC claims database included NGB patients aged ≤17 years over a 12-month follow-up period.

・The target NGB population definition combined NGB diagnosis, overactive bladder (OAB) diagnosis, or prescription for OAB with diagnosis of neurological disease.

Database

・This anonymized dataset provides monthly medical claims for Japanese company employees aged 0-74 and their dependents, covered by employee insurance programs.[4, 5]

・The data can be tracked even if a patient transfers hospitals or uses multiple facilities.



Results

Table 1. Patient demographics and baseline characteristics

	Spina bifida (n=414)	Non-spina bifida cohort (n = 651)
Age at the index month, mean [SD]	4.8 [4.5] **	7.8 [4.5]
Age at the index month, median (Q1-Q3)	4.5 (0.0-8.0)	7.0 (4.0-11.0)
Sex, male, n (%)	229 (55.3) *	404 (62.1)
Comorbidities, n (%)		
Dermatitis, unspecified	167 (40.3)	292 (44.9)
Constipation	107 (25.8) **	320 (49.2)
Xerosis cutis	133 (32.1) *	258 (39.6)
Gastroenteritis and colitis of unspecified origin	141 (34.1)	237 (36.4)
Cramp and spasm	2 (0.5) **	255 (39.2)
Epilepsy, unspecified	17 (4.1) **	223 (34.3)
Scoliosis, unspecified	11 (2.7) **	177 (27.2)
Dislocation of hip	6 (1.4) **	159 (24.4)
Developmental disorder of speech and language unspecified	11 (2.7) **	95 (14.6)
Other and unspecified gastroenteritis and colitis of infectious origin	34 (8.2)	65 (10.0)
Hospitalization, n (%)	169 (40.8) **	334 (51.3)

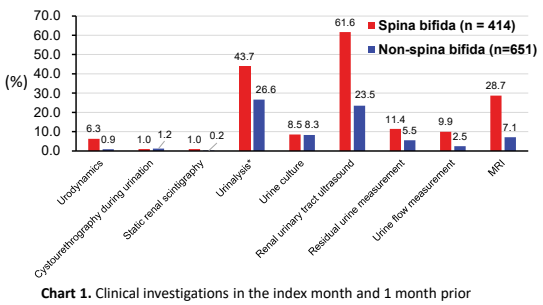


Chart 1. Clinical investigations in the index month and 1 month prior

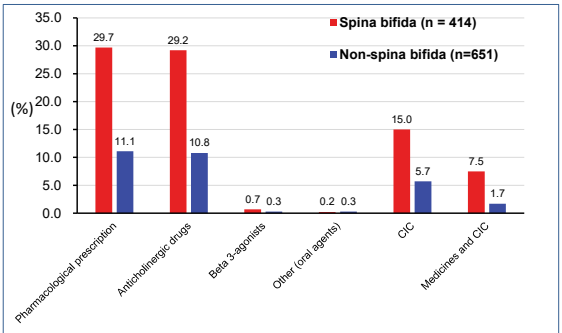


Chart 2. Treatment in 12 months of follow-up: pharmacotherapy and CIC

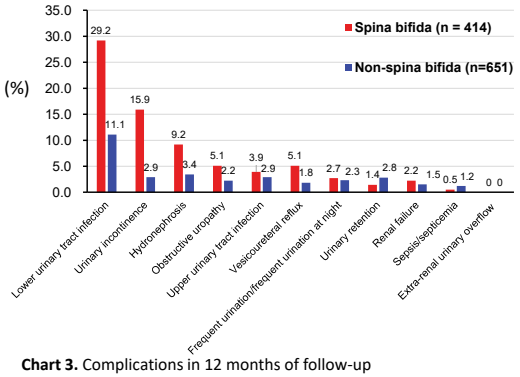


Chart 3. Complications in 12 months of follow-up

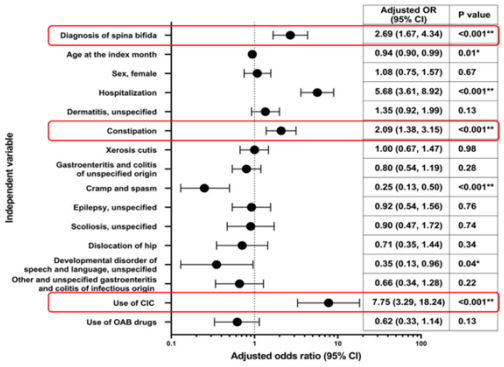


Chart 4. Multivariate analysis for development of urinary tract infection

Strengths and Limitations

Strengths

✓ The first large real-world study in Japan with long-term follow-up in pediatric NGB.

✓ With data traceability, the results are likely to be generalizable.

Limitations:

✓ The administrative database cannot rule out the following possibilities:

- Misclassification bias.
- Name of the diagnosis may differ from the actual.
- Other neurological diseases prior to enrollment may the cause of the NGB.

✓ The purpose of the examination is unclear.

✓ Data on the severity of NGB and other diseases are not available.

Conclusions

1. This study demonstrates that in routine clinical practice, lower urinary tract dysfunction is rarely evaluated as recommended by guidelines.

2. Without adequate assessment, there is an increased risk of not adequately identifying disease status, which may result in the failure to provide timely and appropriate treatment.

It is necessary to conduct regular testing as recommended by the guidelines, including behavioral therapy, CIC, and pharmacotherapy, and to select appropriate management strategies for each patient.

References

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