

Outcome of epilepsy comorbid with attention-deficit/hyperactivity disorder or autism spectrum disorder

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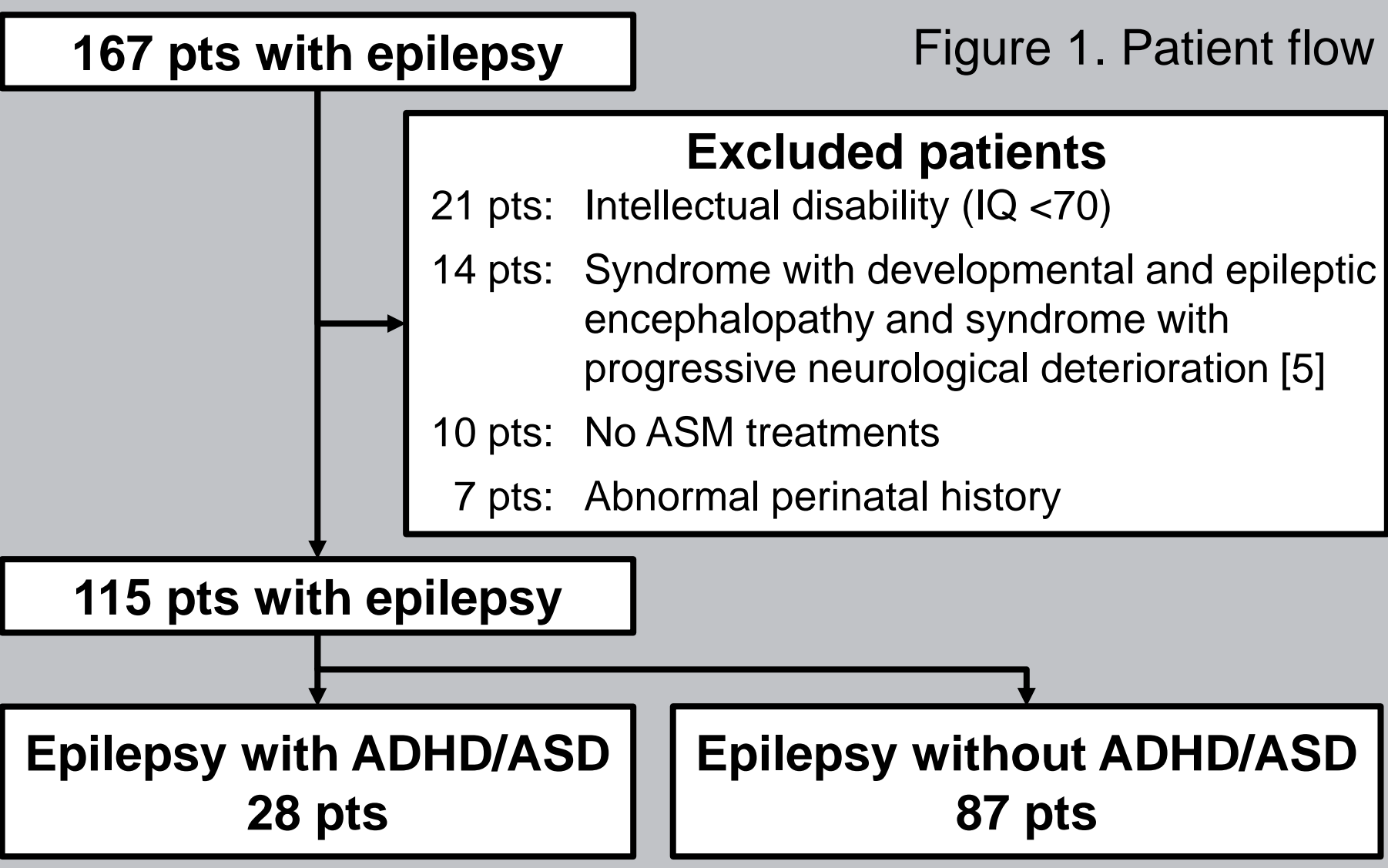
Introduction & Objective

- The prevalence of ADHD and ASD among patients with epilepsy accounts for 13.8–33% [1,2] and 5–21% [2,3], respectively.
- There is still no established treatment strategy for the epilepsy in patients with ADHD or ASD.
- Long-term seizure outcome is not also known.
- The purpose of this study is to reveal the feature and outcome of epilepsy in patients comorbid with ADHD or ASD (ADHD/ASD).

Methods

Inclusion criteria

- Patients who visited to Division of Child Neurology in Tottori University Hospital 2013–2022
- Epilepsy patients <18 years of age
- Patients with genetic or unknown etiology [4]
- Follow-up period ≥ two years



ADHD/ASD Statistics Patients were diagnosed under DSM-V by pediatric neurologists
Categorical variables: Chi-squared test or Fisher's exact test
Ordinal or continuous variables: Welch's t-test
Statistical significance was set at $p < 0.05$
IBM SPSS Statistics version 29.0 (IBM Japan, Tokyo, Japan)

Ethical issue This study was approved by the Institutional Ethics Committee of the Tottori University Hospital (approval number: 23A074)

Results

Table 1. Patient background and characteristics of epilepsy

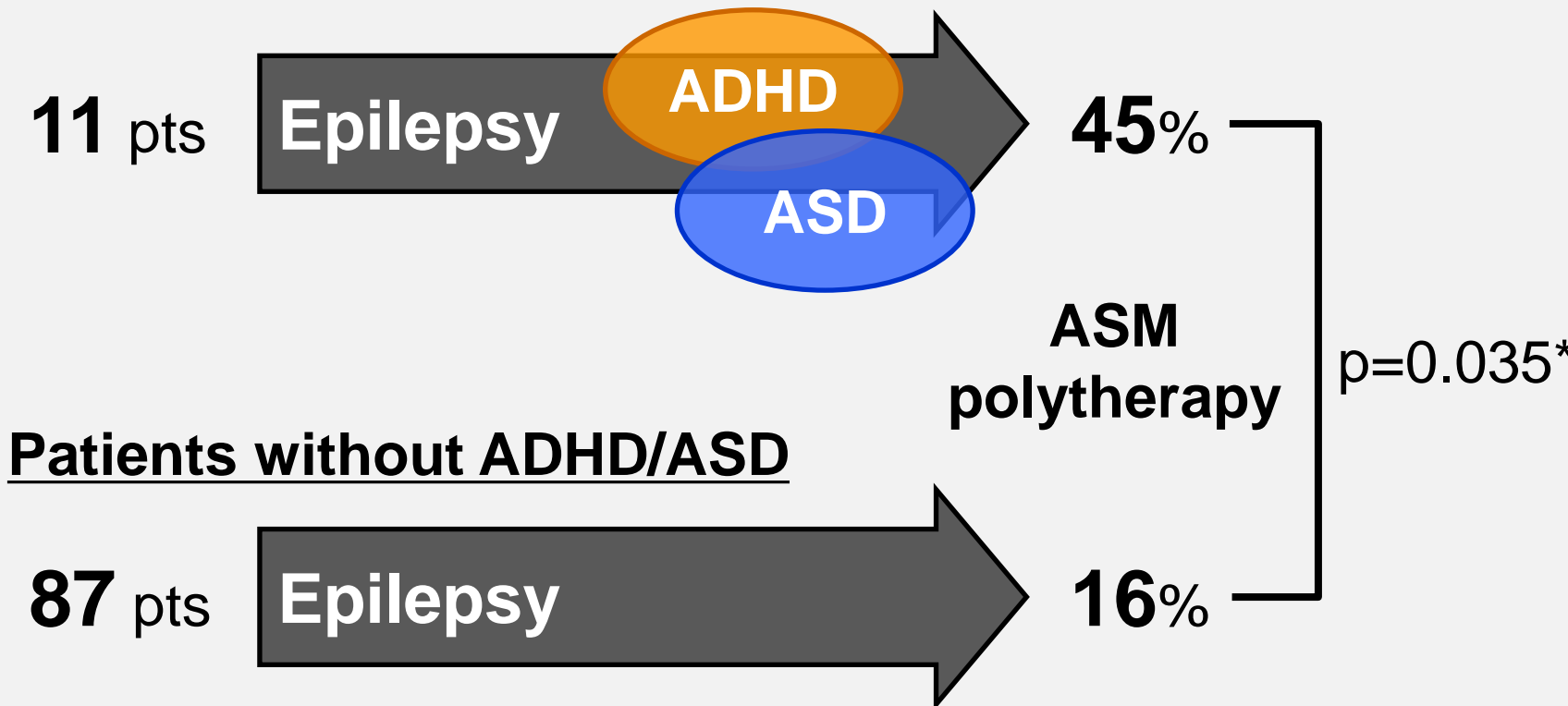
	Epilepsy with ADHD/ASD (N=28)	Epilepsy without ADHD/ASD (N=87)	p-value
<u>Patient background</u>			
Gender (male), n (%)	20 (71%)	45 (52%)	0.067
Age of seizure onset (y), mean (SD)	6.6 ±3.9	8.7 ±4.1	0.018*
Follow-up period (y), mean (SD)	7.4 ±2.4	5.8 ±2.8	0.004*
<u>Epilepsy types and syndromes</u>			
Focal, n (%)	15 (54%)	56 (64%)	0.307
SeLFE, n (%)	3 (11%)	15 (17%)	0.555
Generalized, n (%)	10 (36%)	20 (23%)	0.182
IGE, n (%)	6 (21%)	17 (20%)	0.828
Combined generalized and focal, n (%)	1 (4%)	1 (1%)	0.429
Unknown, n (%)	2 (7%)	10 (11%)	0.728
<u>Epilepsy treatment and outcome</u>			
ASM polytherapy, n (%)	11 (39%)	14 (16%)	0.010*
Drug resistant epilepsy, n (%)	4 (14%)	4 (5%)	0.097
2-year remission at the last f/u, n (%)	21 (75%)	60 (69%)	0.543
Without ASM at the last f/u, n (%)	15 (54%)	39 (45%)	0.420

Table 2. Characteristics of the patients with ADHD/ASD

Epilepsy with ADHD/ASD (N=28)	
ADHD, n (%)	19 (68%)
Inattentive	11 (39%)
Hyperactivity/impulsivity	2 (7%)
Combined	6 (21%)
ASD, n (%)	17 (61%)
ADHD+ASD, n (%)	8 (29%)
Age of ADHD/ASD diagnosis (y), mean (SD)	9.1 ±3.7

Figure 2. Development of ADHD/ASD and polytherapy ratio

Patients who presented with ADHD/ASD after epilepsy



Conclusions

- Among the epilepsy with ADHD/ASD group, seizure onset was significantly younger, and ASM polytherapy was significantly more common than in the epilepsy without ADHD/ASD group.
- Epilepsy was likely to develop at younger ages and require polytherapy, which may represent the higher epileptic activity in younger patients with ADHD/ASD (Fig 3).
- No significant differences in seizure outcomes between the groups at the last f/u. Comorbidity of ADHD/ASD does not indicate poor seizure outcome.

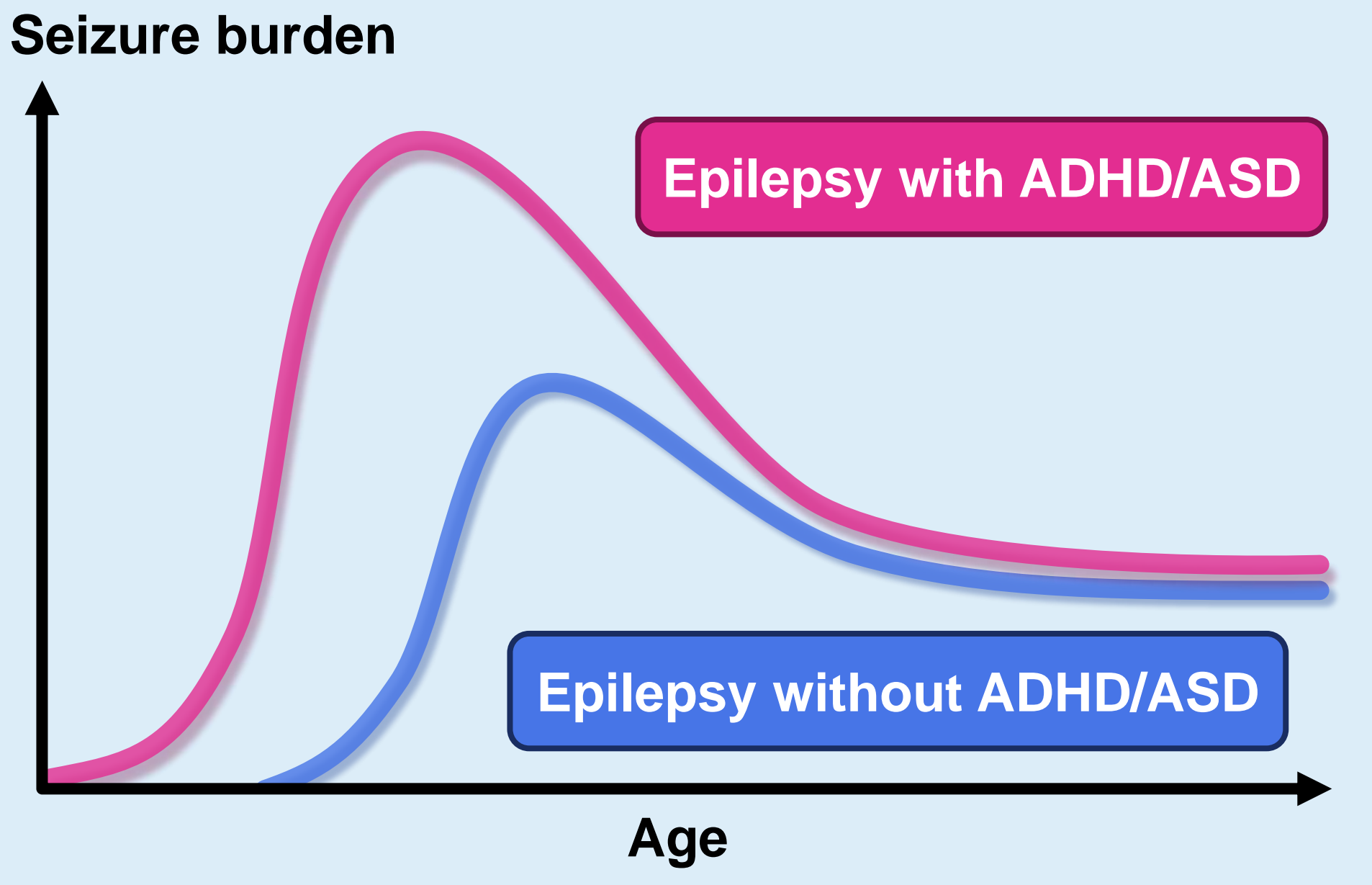


Figure 3. Characteristics of epilepsy comorbid with ADHD/ASD

Reference

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Acknowledgement & Conflict of interest disclosures

- We sincerely thank the doctors who collaborated with us to treat the patients.
- All presenters report no conflicts of interest regarding this study.

