



Compassionate use with cannabidiol for Dravet syndrome and tuberous sclerosis complex in Taiwan: a multicenter retrospective study



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OBJECTIVE

Dravet syndrome is an epilepsy syndrome of severe epileptic encephalopathy associated with pharmacoresistant seizures and high mortality rate. Tuberous sclerosis complex also has high rate of pharmacoresistant epilepsy as a comorbidity. The aim of this study is to investigate the efficacy and safety of cannabidiol as an adjunctive therapy in patients with pharmacoresistant epilepsy of these two diseases in Taiwan.

MATERIAL AND METHODS

A clinical retrospective study was conducted from January 2022 to August 2023 in the pediatric/adult neurology clinics at 4 tertiary medical centers. We reviewed the data obtained from 29 patients whose seizures were pharmacoresistant to more than two antiseizure medications, received cannabidiol therapy with compassionate use. The efficacy and adverse events were recorded.



TSC with transient skin rash

RESULTS

There were 29 patients enrolled in this study. One did not receive cannabidiol due to personal issue. 28 patients (17 Dravet syndrome; 11 tuberous sclerosis complex) received cannabidiol treatment. 2 patients discontinued cannabidiol due to adverse events. 26 patients (14 females; 12 males) continue cannabidiol treatment currently with average age of 16.9±9.3 years (4-42). The dosage of cannabidiol was 12.3±6.8 mg/kg/day (0.5-25). Seizures frequency and intensity were decreased in 82 % (23/28). Adverse events were 10 diarrhea, 3 aggressive behavior, 2 poor appetite, 1 skin eash,3 sleepiness. 1 status epilepticus, 1 constipation. Overall benefit rate was 82% with the feedback by parents.

	n=28
Age (years)	16.9±9.3 (4-42)
Sex	14F:14M
Body weight (kg)	50.2±23.3
CBD dose (mg/kg/day)	12.3±6.8 (0.5-25)
Seizure frequency /intensity ↓	23/28(82%)
Benefits	23/28(82%)
Withdraw	2/28 (7%)

Adverse events	Total (n=28)	DS (n=17)	TSC (n=11)
Diarrhea	10 (36%)	4	6
Aggressive behavior	3 (11%)	2	1
Sleepiness	3 (11%)	2	1
Poor appetite	2 (7%)	1	1
Constipation	1 (3%)	1	0
Status epilepticus	1 (3%)	1	0
Skin rash	1 (3%)	0	1

CONCLUSIONS

Cannabidiol was efficacious and generally well-tolerated as an add-on treatment for pharmacoresistant epilepsy in patients with Dravet syndrome and tuberous sclerosis complex in Taiwan.

F/47 kg	CBD	mg/kg/day	clinical issues	
2022/05/04	0.5 ml BID	2.2		
2022/05/26	1 ml BID	4.3	sleepy, WBC 3400/uL	taper clobazam 0.5# HS
2022/06/11	1 ml BID	4.3	WBC 4500/uL, n/LF	seizure free
2022/06/25	2 ml BID	8.7	postictal lethargy	improved interaction
2022/07/09	3 ml BID	13.0	n/LF	
2022/07/23	3.5 ml BID	15.2	-	seizure free
2022/08/27	4 ml BID	17.4	n/LF	
2022/09/10	4.5 ml BID	19.1	-	mood improvement
2022/10/22	4.5 ml BID	19.1	mild diarrhea	
2022/11/05	4.5 ml BID	19.1	COVID (no seizures)	+Lactobacillus
2023/01/07	4.5 ml BID	19.1	diarrhea*3/day	tolerable diarrhea
2023/02/04	4.5 ml BID	19.1	diarrhea*3/day	+Miyarisan
2023/03/08	4 ml BID	17.4	diarrhea*	CBD ↓
2023/04/08	4 ml BID	17.4	improved diarrhea	seizure free (10 months)

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