

# Gabapentin overdose – A case series

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## Objective

The purpose of the study was to assess the toxicity and clinical features of gabapentin in overdose because there is little information in literature on this topic.

## Method

Cases of overdose of gabapentin from eight Poisons Information Centres in Austria, Germany and Switzerland were analysed retrospectively. Inclusion criteria were monointoxication, defined dose and documented follow-up. Severity of symptoms was assessed according to Poisoning Severity Score.

## Case series

### Patients and dose

A total of 43 cases met the inclusion criteria. Seven patients were children (age 1.5 – 13 years) and 36 patients were adolescents or adults (age 15 – 84 years). Dose ranged from 300 to 9,000 mg (8.3 – 205 mg/kg) in children and 600 to 60,000 mg in adolescents/adults.

**Table 1:** Cases of poisoning by gabapentin

Age group	Number of cases	Age (years) median (range)	Dose (mg) median (range)
toddler	4	2.25 (1.5 – 3)	375 (300 – 600)
school child	3	12 (7 – 13)	600 (500 – 9,000)
adolescent	5	16 (15 – 16)	6,000 (700 – 24,000)
adult	24	38 (18 – 60)	5,500 (600 – 60,000)
senior	7	74 (68 – 84)	3,600 (600 – 15,000)

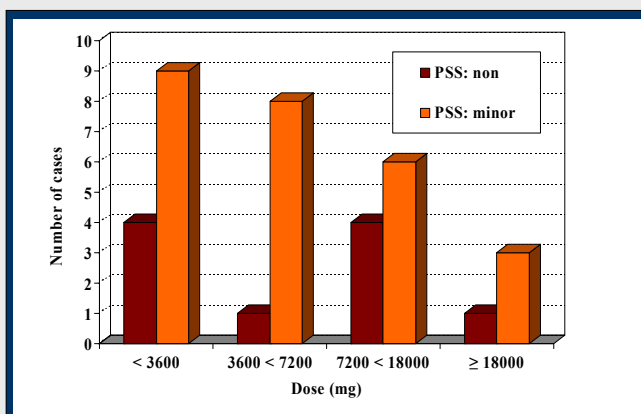
### Symptoms and severity

Patients developed no or only mild symptoms. Six children remained asymptomatic, whereas in one case (500 mg = 8.3 mg/kg) mild symptoms were observed. Mild effects in adolescents/adults were caused by doses above 600 mg. In contrast, adults tolerated doses up to 48,000 mg without adverse effects.

**Table 2:**

Symptoms caused by poisoning with gabapentin – Case number and frequency in % of all symptomatic cases (n = 27)

Symptom	Case number (frequency)
somnolence	9 (33.3 %)
fatigue	7 (25.9 %)
dizziness	4 (14.8 %)
abdominal pain	2 (7.4 %)
ataxia	2 (7.4 %)
headache	2 (7.4 %)
mild agitation	2 (7.4 %)
tachycardia	2 (7.4 %)
tremor	2 (7.4 %)
asthenia	1 (3.7 %)
AV block	1 (3.7 %)
blurred vision	1 (3.7 %)
disturbance in blood pressure	1 (3.7 %)
drowsiness	1 (3.7 %)
hypokalaemia	1 (3.7 %)
nausea	1 (3.7 %)
palpitations	1 (3.7 %)
pyrosis	1 (3.7 %)
right bundle branch block	1 (3.7 %)
slurred speech	1 (3.7 %)
xerostomia	1 (3.7 %)



**Fig. 1:** Doses ingested and severity of poisoning (PSS) caused by gabapentin in adolescents/adults

Most frequently reported symptoms were fatigue (25.9 %), somnolence (33.3 %), dizziness (14.8 %), headache, tremor, ataxia, mild agitation, tachycardia and abdominal pain (7.4 % respectively). In single cases without defined dose or follow up - not included in case series - coma, bradyarrhythmia, and collapse were observed.

### References:

- Klein-Schwartz W, Shepherd JG, Gorman S, Dahl B. Characterization of gabapentin overdose using a poison center case series. Clin Toxicol 2003; 41(1):11–5
- Wills BK, Murphy CM, Reynolds PS, Chu EH, Cumpston KL, Stromberg PE, Rose RS. Clinical outcomes in newer anticonvulsant overdose. Clin Toxicol 2012; 50(7):585

## Conclusion

Overdose of gabapentin frequently resulted in altered mental status. In most cases only mild symptoms occurred. Severe symptoms were not observed. There is no clear correlation between dose and severity of symptoms. These results coincide with case series described by other authors (1,2). Nevertheless, for a comprehensive assessment of the toxicity of gabapentin further investigations are necessary.