

Duloxetine overdose – A case series

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Objective

The purpose of the study was to assess the toxicity and clinical features of duloxetine in overdose. Case series previously described show that the majority of ingestions are generally benign but give insufficient information about toxic dose (1,2,3,4).

Case series

Patients and dose

A total of 82 cases met the inclusion criteria. Nineteen patients were children (age 0.75 – 4 years) and 63 patients were adolescents or adults (age 14 – 82 years). Dose ranged from 15 to 240 mg (1.0 – 13.5 mg/kg) in children and 60 to 6300 mg in adolescents/adults (Table 1).

Symptoms and severity

Thirteen children remained asymptomatic, whereas in six cases mild and moderate symptoms were observed at doses from 15 mg and 120 mg (1.0 and 10.9 mg/kg), respectively. Most adolescents/adults developed no or mild symptoms (81.0 %), ten patients suffered from moderate and two from severe symptoms (Figure 1). Mild and moderate effects in adolescents/adults were caused by doses from 60 and 300 mg, respectively. In contrast, adults tolerated doses up to 1800 mg without adverse effects. The minimum dose causing severe intoxication with recurrent seizures was 1800 mg.

Table 2:

Symptoms caused by poisoning with duloxetine – Case number and frequency in % of all symptomatic cases (n = 58)

Symptom	Case number (frequency)
nausea/ vomiting	28 (48.2 %)
somnolence	17 (29.3 %)
tachycardia	14 (24.1 %)
mydriasis	10 (17.2 %)
mild agitation	8 (13.8 %)
headache	6 (10.3 %)
tremor	5 (8.6 %)
fatigue	4 (6.9 %)
seizures	4 (6.9 %)
hypertension	3 (5.2 %)
sweating	3 (5.2 %)
QTc-prolongation	2 (3.5 %)
abdominal pain	2 (3.5 %)
diarrhoea	2 (3.5 %)
xerostomia	2 (3.5 %)
psychomotor slowing	2 (3.5 %)
anxiety	2 (3.5 %)

Most frequently reported symptoms were nausea/vomiting (48.2 %), somnolence (29.3 %), and tachycardia (24.1 %). Seizures and hypertension occurred in 6.9 % and 5.2 % of all symptomatic cases, respectively (Table 2).

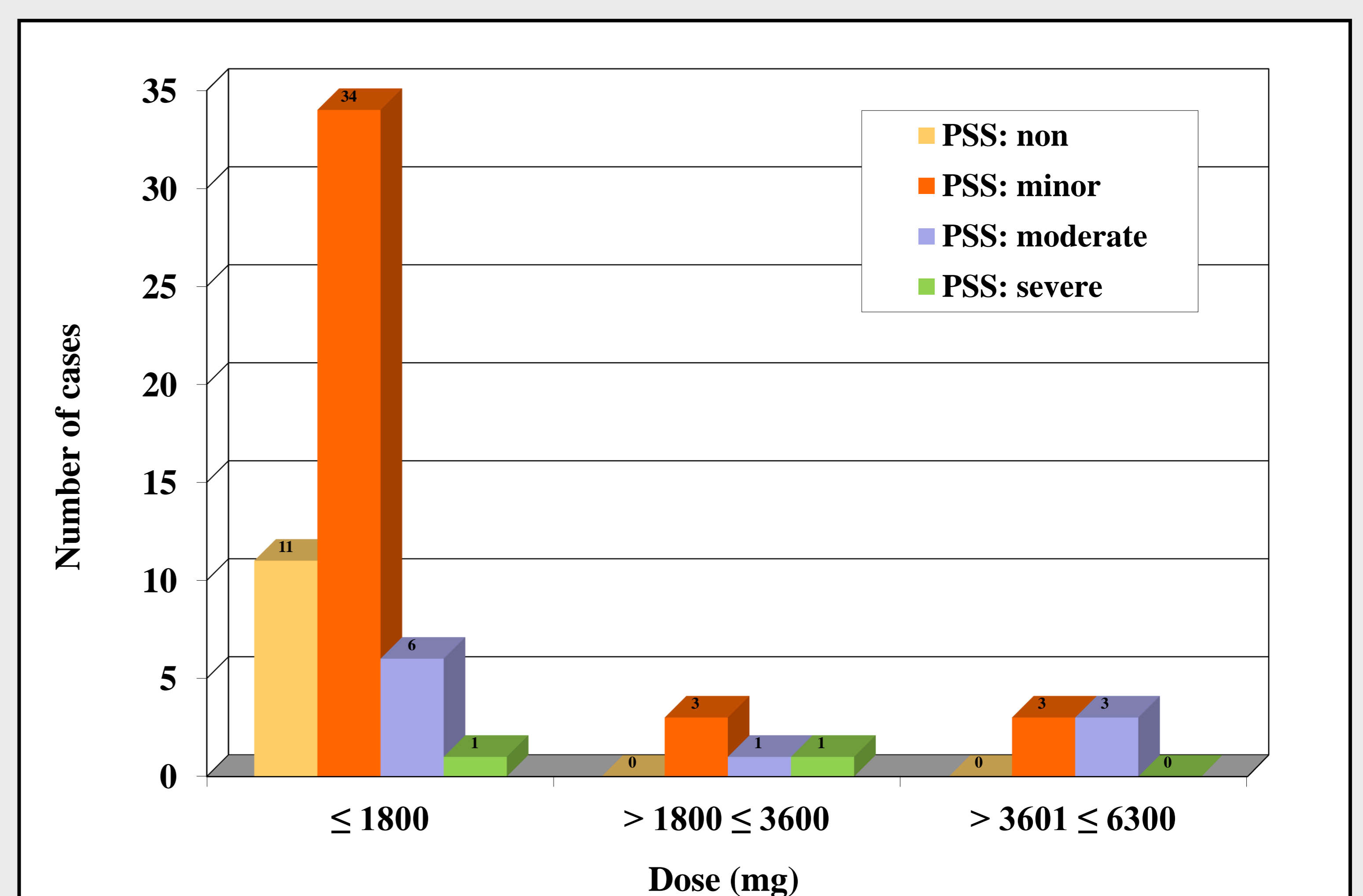
Method

Cases of overdose of duloxetine from nine Poisons Information Centres in Austria, Germany, and Switzerland were analysed retrospectively from 2005 to 2014. Inclusion criteria were single drug ingestion, defined dose, and documented follow-up. Severity of symptoms was assessed according to Poisoning Severity Score.

Table 1: Cases of poisoning by duloxetine

Age group	Number of cases	Age (years) median (range)	Dose (mg) median (range)
baby	1	0.75	120
toddler	18	1.85 (1 – 4)	30 (15 – 240)
adolescent	3	14.8 (14 – 16)	420 (300 – 660)
adult	55	35 (18 – 60)	840 (60 – 6300)
senior	5	76 (69 – 82)	600 (60 – 1680)

Figure 1: Doses ingested and severity of poisoning (PSS) caused by duloxetine in adolescents/adults



Conclusion

Overdose of duloxetine frequently resulted in altered mental status. Consistent with previously reported case series and case reports neurological and gastrointestinal symptoms were the most frequent symptoms described (2,3,4). In most cases only mild symptoms occurred. As shown by other authors there is no clear correlation between dose and severity of symptoms (2,3). However, in this study doses causing moderate symptoms were slightly lower (300 mg versus 900 mg) than previously reported (3). For a comprehensive assessment of the toxicity of duloxetine further investigations are necessary.

References:

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