

Escitalopram Overdose in Children and Adolescents

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Objective

Information on the toxicity of escitalopram in paediatric patients is limited. The aim of this ongoing study is to provide more data about toxicity and clinical effects in escitalopram overdose.

Method

In a retrospective multicentric study, cases of acute overdose of escitalopram in children and adolescents were analysed. Inclusion criteria were children and adolescents up to 17 years, single substance ingestion, defined dose, and documented follow-up for at least 9 hours. Severity of symptoms was assessed using the Poisoning Severity Score (PSS) (1).

Case Series

Patients and Dose

A total of 45 cases met the inclusion criteria. Patients involved were 3 babies (0.25 to 0.75 years), 8 toddlers (1.25 to 4 years), 8 schoolchildren (6 to 13 years), and 26 adolescents (14 to 17 years). Doses ranged between 5 to 10 mg (0.6 to 3.8 mg/kg) in babies, 10 to 80 mg (0.7 to 6.3 mg/kg) in toddlers, 5 to 100 mg (0.2 to 2.6 mg/kg) in schoolchildren, and 30 to 1500 mg (0.6 to 30.0 mg/kg) in adolescents. (Table 1).

Age Group	Number of Cases	Age (years)	Dose (range mg)	Dose (range mg/kg)
Baby	3	0.25 - 0.75	5 - 10	0.6 - 3.8
Toddler	8	1.25 - 4	10 - 80	0.7 - 6.3
Schoolchild	8	6 - 13	5 - 100	0.2 - 2.6
Adolescent	26	14 - 17	30 - 1500	0.6 - 30.0

Table 1: Cases of escitalopram poisoning in children and adolescents

Severity of Poisoning

Of all exposures, 55.6 % were suicide attempts, especially in the group of adolescents (92 %). Nevertheless, 31.1 % of all patients remained asymptomatic, and more than half (55.6 %) of the children and adolescents developed only mild symptoms. Moderate to severe symptoms were only observed in two cases of intentional ingestion, at doses of 5.45 and 17.9 mg/kg, respectively (Table 2).

Age Group	Dose causes symptoms (range mg/kg)			
	PSS: none	PSS: minor	PSS: moderate	PSS: severe
Baby	1.25 - 3.85	0.59	-	-
Toddler	0.67 - 6.25	1.18 - 3.08	-	-
Schoolchild	0.21	0.19 - 2.63	-	-
Adolescent	1.02 - 9.83	0.63 - 13.33	5.45 - 30.0	17.9

Table 2: Dose of escitalopram which causes no, mild, moderate or severe effects in children and adolescents

Clinical Effects

The clinical features of escitalopram poisoning are particularly characterised by mydriasis (22.6 %), nausea (19.4 %), vomiting (19.4 %), dizziness (16.1 %), tachycardia (16.1 %), QT-prolongation (16.1 %), drowsiness (12.9 %), and tremor (12.9 %) (Table 3). In isolated cases, two adolescents developed amongst other symptoms also coma and seizure at doses of 1000 mg and 1500 mg, respectively.

Symptom	Case number (frequency)
Central Nervous System	
Dizziness	5 (16.1 %)
Tremor	4 (12.9 %)
Drowsiness	4 (12.9 %)
Headache	3 (9.7 %)
Fatigue	3 (9.7 %)
Agitation	3 (9.7 %)
Restlessness	3 (9.7 %)
Cardiovascular System	
Tachycardia	5 (16.1 %)
QT-prolongation	5 (16.1 %)
Gastrointestinal Tract	
Nausea	6 (19.4 %)
Vomiting	6 (19.4 %)
Others	
Mydriasis	7 (22.6 %)

Table 3: Most frequent symptoms caused by poisoning with escitalopram – case number and frequency of all symptomatic cases (n = 31)

Conclusion

Most cases of escitalopram overdose in this study resulted in no or only mild effects (86.7 %). Moderate symptoms were not recorded in babies, toddlers and schoolchildren. There is no correlation between dose and severity of symptoms.

Results of this study show that the approach of Stanford R. et al. (2) and Laska E. et al. (3) is reasonable, and medical observation is recommended for doses greater than 1,5 mg/kg or 50 mg. However, to date there are only limited data and studies regarding the toxicity particularly in this age group. Therefore, further investigations are necessary for a comprehensive and concluding assessment of the toxicity of escitalopram in children and adolescents.

References

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