

CITALOPRAM POISONING AND FATALITY

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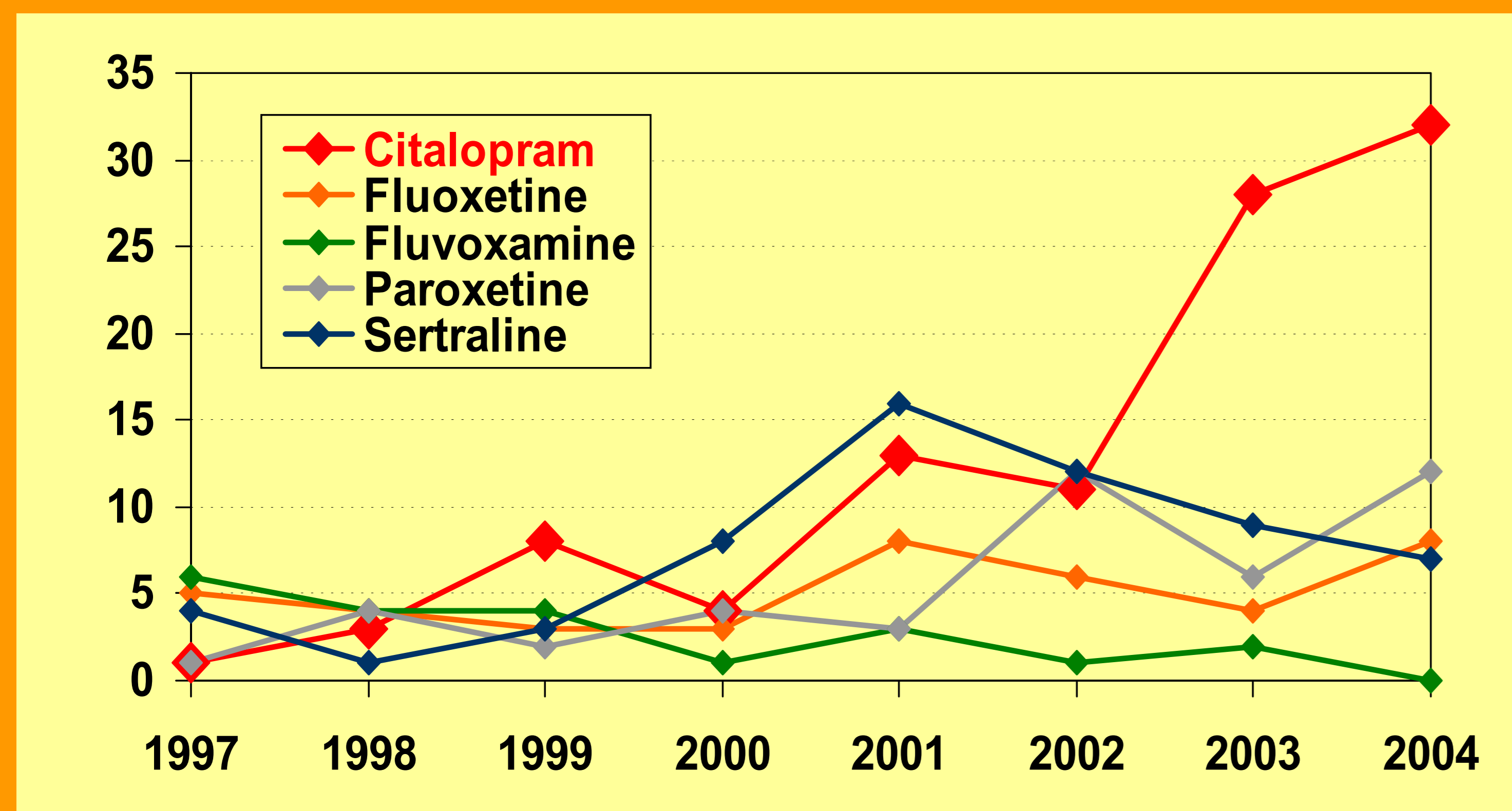
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Objective

Over the last few years cases of citalopram overdose increased in parallel with prescription. Reports on poisoning with citalopram suggest that it may be more toxic than other selective serotonin reuptake inhibitors (1). We analysed our cases to give more information about dose-toxicity relationship.

Cases of poisoning with selective serotonin reuptake inhibitors



Case reports

CASE 1 (PIC 200303063)

Patient: 52-year-old female

Dose: 2000 mg citalopram (approx. 28 mg/kg) and alcohol

Time of admission: 8 hours after ingestion

Clinical features:

➤ **CNS:**

seizures 7 and 8 hours after ingestion, somnolence

➤ **Cardiac monitoring:**

blood pressure 140/80 mmHg, heart rate 120 beats/min, QTc (383 ms) was normal

➤ **Laboratory findings:**

blood alcohol concentration 1.7 g/L, all parameters were in normal range

Treatment:

Despite late admission activated charcoal and sodium sulphate were given.

Patient was transferred to psychiatric department next day.

CASE 2 (PIC 200301187)

Patient: 22-year-old female

Dose: 4000 mg citalopram (approx. 57 mg/kg)

Time of admission: 6-9 hours after ingestion

Anamnesis: a persistent common atrioventricular canal was treated surgically in the previous year

Clinical features:

➤ **CNS:**

Somnolence with progression to sopor, mydriasis, recurrent tonic-clonic seizures

➤ **Cardiac monitoring:**

initial blood pressure 100/60 mmHg, heart rate 100 beats/min, asystolia, bradycardic escape rhythm

Treatment:

Even though patient was admitted late activated charcoal was administered.

First cardiac resuscitation was successful. The patient was intubated and artificially ventilated. Temporary pacemaker was installed as bradycardic escape rhythm appeared. A renewed reanimation was unsuccessful.

Case series PIC Erfurt 1997 - 2004

Number of cases: 93 single drug ingestions (1997 to 10/2004)

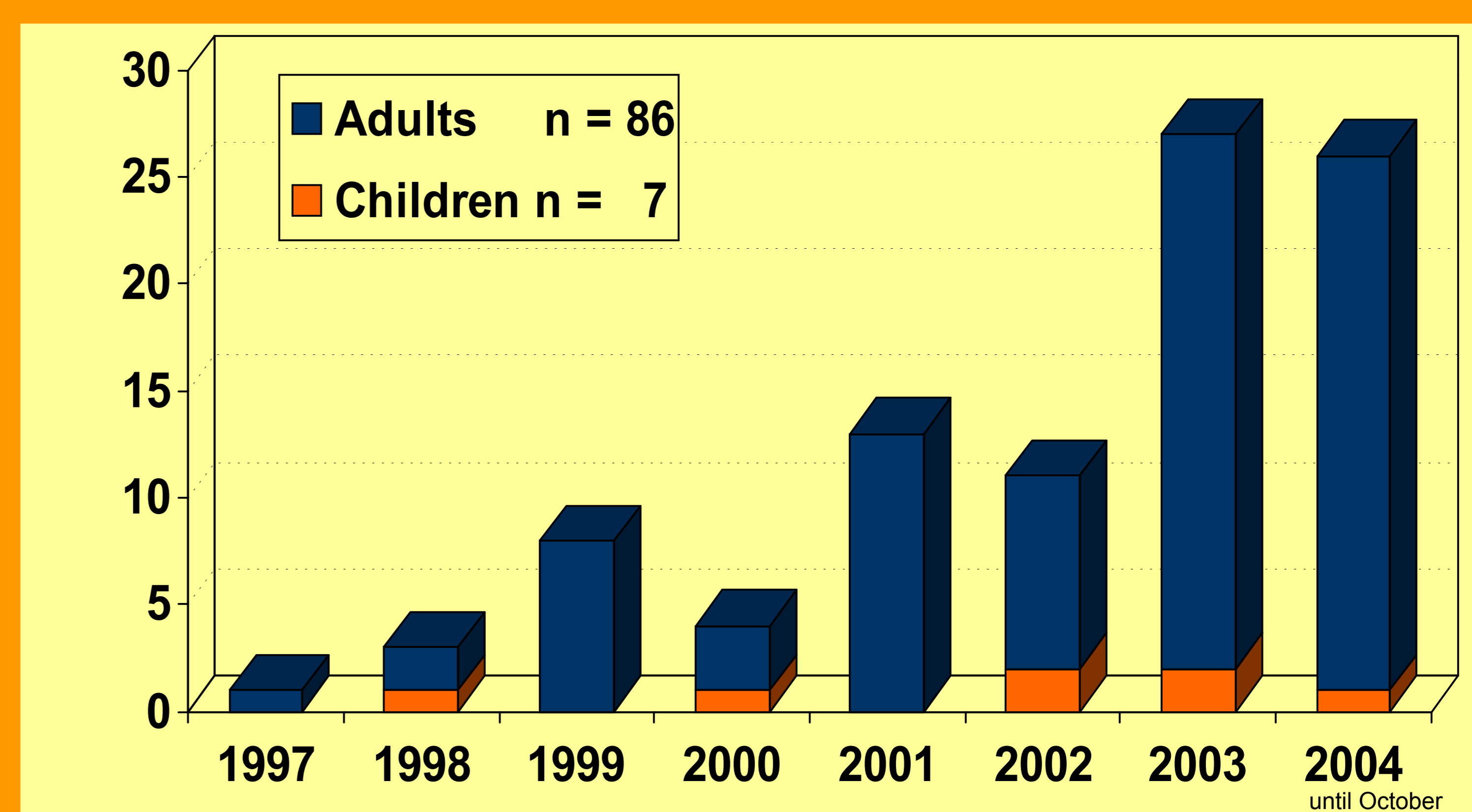
Patients: age 2 - 79 years (median 34 years); 86 adults (92.5 %), 7 children (7.5 %)

Dose: 0.43 - 171 mg/kg (median 6 mg/kg) and 1.5 to 600-fold DDD, respectively

Cause of poisoning: 63 suicide attempts (68 %), 10 accidental overdoses (10.8 %), 2 misapplication (2.2 %), 1 drug abuse (1.1 %), 17 unknown cause (18.3 %)

Estimated risk: 5 non-toxic (5.4 %), 43 possibly toxic (46.2 %), 17 minor toxic (18.3 %), 10 moderate toxic (10.8 %), 6 severe toxic (6.5 %), 12 unpredictable (12.9 %)

Cases of citalopram overdose



Range of Toxicity

Dose	Symptoms
> 1.1 - 4.3 mg/kg	mostly mild symptoms (fatigue, nausea, vomiting)
> 4.3 mg/kg	tachycardia
> 8.6 mg/kg	arrhythmias
> (8.6) 14.3 mg/kg	seizures
> 16.8 mg/kg	coma

Conclusion

- Regarding central as well as cardiac toxicity of citalopram we confirm with case reports from other authors (2,3) that doses over 2 grams provoke severe symptoms, whereas about 4 grams may be a lethal dose.
- Moreover, citalopram seems to have a higher cardiotoxicity in overdose than other selective serotonin reuptake inhibitors.

References

1. Kelly CA, Dhaun N, Laing WJ, Strachan FE, Good AM, Bateman DN (2004) Comparative toxicity of citalopram and the newer antidepressants after overdose. J Toxicol Clin Toxicol 42: 67-71
2. Öström M, Eriksson A, Thorson J, Spigset O (1996) fatal overdose with citalopram. Lancet 348: 339-340
3. Personne M, Persson H, Sjöberg E (1997) Citalopram toxicity. Lancet 350: 518-519