CITALOPRAM POISONING AND FATALITY
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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 1

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

Patient: 22-year-old female
Dose: 4000 mg citalopram (approx. 57 mg/kg)
Time of admission: 6-9 hours after ingestion
Anamnesis: a persistant 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 lately 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 %)

References

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 cardial 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 cardiotocicity in overdose than other selective serotonin reuptake inhibitors.