

Background:

4 fluoroamphetamine (4-FA) is an increasingly popular drug of abuse. Severe complications and their acute onset have been described in the literature, yet a clear clinical description is unavailable. The aim of this study is to provide a clear clinical description of the cardiovascular complications.

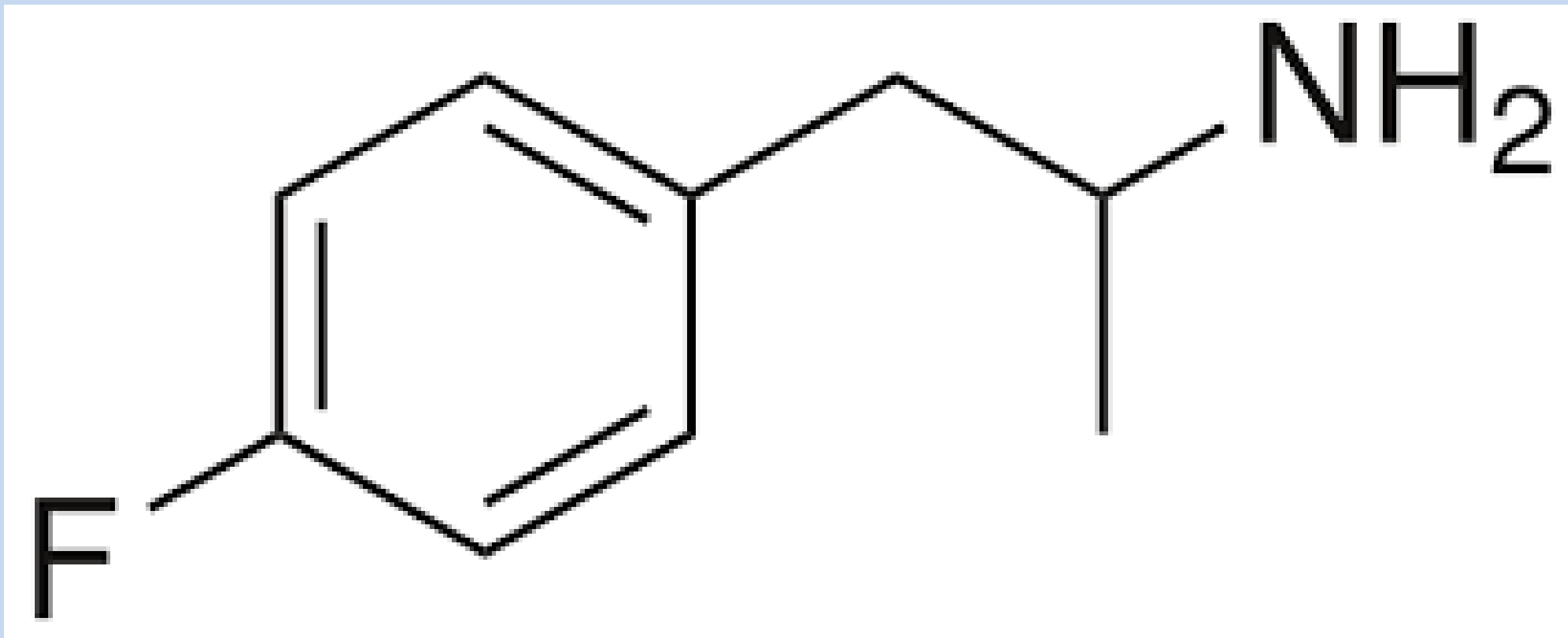


Figure 1 : Chemical structure of 4-FA

Patients & Methods :

In this observational study patients of 18 years and older whom presented with a 4-FA intoxication at the emergency department (ED) of OLVG hospital in Amsterdam between May 2016 and May 2017 were manually selected from the electronic patient database.

Data collection:

Medical files of eligible patients were reviewed. Primary outcomes comprised patient complaints, vital parameters, laboratory result and duration of admission. Secondary outcomes consisted of the need for intervention.

Results & discussion :

A total of 20 patients were included, comprising 75% multi drug intoxications. The average age was 23 years ( $\pm 3.6$  years) and 55% was male. Patients complained most of nausea (45%) and headache (25%). Complications comprised mainly hypertension (45%) and tachycardia (40%). 10% of patients showed a hypertensive emergency (BP > 200/120mmHg) and 5% showed a tachycardia of more than 130 beats/min. All patients needed ED observation, for an average observation time of 2:48 hours (median 2:23 hours, IQR 1:48h – 3:32h) and 2 patients were admitted to the ward. One patient was observed for agitation and another patient was admitted to the intensive care unit for treatment of acute cardiogenic shock. No patients died.

	Results	
	Complications	
	N	%
Nausea	9	45
Headache	5	25
Tachypnea (RR > 20/min)	4	20
Desaturation (SaO <sub>2</sub> < 96%)	1	5
Tachycardia (HR > 100/min)	8	40
Hypertension (SBP > 140 mmHG)	9	45
Hyperthermia (T > 38,5° C)	0	0
Leucocytosis (> 10 <sup>9</sup> / L)	9	45
Elevated Creatine Kinase (> 171 U/ L)	8	20

Table 1 : Complications

	Results	
	Intervention	
	N	%
Intubation	1	5
Fluid resuscitation	2	10
Inotropic (enoximone)	1	5
Benzodiazepine	8	40
Admission to the ward	2	10

Table 2 : Intervention

Conclusion & perspectives :

This research shows clinical aspects of 4-FA intoxications, mainly consisting of cardiovascular complications. Further research is needed to develop early warning signs for adverse events.



Figure 2 : Diversity in 4-FA tablets