

Poisoning by illegal drugs in young children in Spanish paediatric emergency departments[☆]



Intoxicaciones por droga ilegal en niños de corta edad en los servicios de urgencias pediátricos españoles

Dear Editor:

Poisonings by illegal drugs are rarely seen in paediatric emergency departments (PEDs) and constitute approximately 1.5% of the total cases of poisoning.¹ They usually occur in older patients that are exposed to these drugs in a recreational context, and cannabis is the substance most frequently involved.²

However, on rare occasions, PEDs manage young children that have been exposed to illegal drugs. These cases usually involve unintentional drug exposure resulting from the drive to explore characteristic of this age group.

Although it has been described that the use of psychoactive substances in society at large carries the risk of minors being exposed to them, there are few published studies on the subject.³ It is likely that contact with health care services occurs in cases in which the minor exhibits significant symptoms,⁴ but the actual number of poisonings may exceed the documented number, as in some cases the symptoms may be minimal or short-lived.

This study analyses the prevalence of this type of poisonings in the PEDs, as well as their characteristics and the way in which they are managed in these settings, based on the data of a prospective register of poisoning cases made by the Toxicology Surveillance System of the Spanish Society of Paediatric Emergency Care (Observatorio Toxicológico de la Sociedad Española de Urgencias de Pediatría) between October 2008 and June 2015. The study was approved by the Committee on Ethics and Clinical Research of the Basque Country. [Appendix A](#) lists the participating hospitals.

The data collection protocol applied to each patient included the following variables: age and sex; toxic substance; poisoning setting; family history of substance abuse; potential for exposure to the substance; previous outpatient assessment and/or treatment; circumstances leading to transfer to the PED; signs and symptoms; diagnostic testing and/or treatments in the PED; patient destination after discharge and outcome.

In the period under study, 413 461 emergency visits were managed in the participating PEDs, of which 1139 corresponded to poisonings (0.27%). Of the latter, 32 cases (2.8%) corresponded to poisonings by illegal substances: 23 involving a single substance and 9 involving a combination of

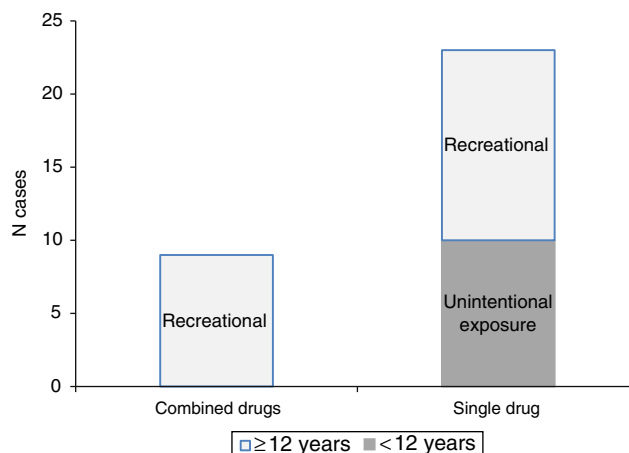


Figure 1 Distribution of poisonings by illegal drugs by age, reason for exposure and number of involved substances.

substances. Of the poisonings involving a single substance, 10 (43.5%) corresponded to unintentional exposures in children aged less than 3 years.

[Fig. 1](#) shows the distribution of poisonings by illegal drugs by reason for exposure and patient age. There is a gap in this distribution between ages 3 and 11 years, probably due to an overall decline in the frequency of unintentional exposures at these ages, which at the same time are below the usual age band at which intoxications are due to recreational drug use.

[Table 1](#) summarises the characteristics of unintentional poisonings. The ten cases of unintentional poisoning in minors involved cannabis and cocaine, and the clinically significant manifestations consisted of central nervous system symptoms, as reported in the literature.⁴ There are studies in the literature that report that accompanying individuals fail to provide information regarding the exposure to the substance.⁵ However, in our case series this information was provided by a significant number, which facilitated the management of the child's presenting problem and prevented the performance of unnecessary tests. In three cases, ancillary tests other than those used for detecting the toxic substance were performed due to the severity of the clinical manifestations and/or to assess for potential complications. Management in the PEDs mainly consisted of supportive measures and/or gastrointestinal decontamination, in adherence with clinical practice guidelines.⁶ All of these patients were admitted to the hospital, and while the final outcome was good in all, 40% were initially admitted to critical care units. In addition, with the exception of one case in which this datum was not documented, local social services and legal authorities were notified in all cases.

Based on this case series, nearly half of poisoning cases in Spanish PEDs involving illegal drugs as the only detected substances corresponded to young children, and usually involved cannabis. Although outcomes are generally good, these children are generally unstable on arrival at the PED and at times require treatment and follow-up care in critical care units.

[☆] Please cite this article as: Azkunaga B, Crespo E, Oliva S, Humayor J, Mangione L. Intoxicaciones por droga ilegal en niños de corta edad en los servicios de urgencias pediátricos españoles. *An Pediatr (Barc)*. 2017;86:47–49.

Table 1 Characteristics and management of patients with unintentional illegal drug poisoning.

Patient	1	2	3	4	5	6	7	8	9	10
Substance	Cannabis	Cannabis	Cannabis	Cannabis	Cocaine	Cannabis	Cannabis	Cocaine	Cannabis	Cannabis
Age (months)	24	15	13	15	29	18	15	20	15	17
Sex	Female	Male	Male	Male	Female	Male	Female	Female	Male	Female
Setting	Home	Outside home	Outside home	Outside home	Home	Outside home	Home	Home	Home	Home
Do they report exposure?	Unknown	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Family history of substance use?	Unknown	No	Yes, parental substance use	No	Yes, maternal substance use	Yes, father in recovery	Yes, parental substance use	No use, but presence of cocaine in the home	Yes	Yes
Accompanying individuals	Parents	Parents	Parents	Parents	Grandmother	Parents	Parents	Aunt	Parents	Grandmother
Transport	Car	Car	Car	Ambulance	Car	Car	Ambulance	Ambulance	Car	Car
Previous health care contact	No	No	No	No	Other	No	Yes, PC	Yes, PC	No	Yes, PC
Previous treatment	No	No	No	No	No	No	No	Yes, IV midazolam and diazepam	No	No
Symptoms	Sleepiness, dry mucous membranes	Irritability	Sleepiness	Sleepiness	Irritability	Sleepiness, instability	Sleepiness, hypotonia	Agitation, visual hallucinations	Sleepiness	Sleepiness, conjunctival hyperaemia
Findings	↓ level of consciousness	Normal	↓ level of consciousness, mydriasis	↓ level of consciousness	Agitation	Frequent smiling, ataxia	Hypertonia, reduced responsiveness	Agitation, mydriasis, tachycardia, hypertonia	↓ level of consciousness	Conjunctival hyperaemia
Tests	Substance levels	Substance levels	Substance levels	Substance levels	Substance levels	Substance levels	Substance levels, cranial CT	Substance levels, EKG, chest Rx	Substance levels, cranial CT	Substance levels
Inpatient treatment	No	No	No	No	No	No	No	AC + GL, midazolam, propofol	AC + GL	GL
Destination	Hospital	Hospital	Hospital	CCU	Hospital	Hospital	CCU	CCU	CCU	Hospital
Social/legal services	Unknown	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

AC, activated charcoal; CCU, critical care unit; CT, axial computed tomography scan; EKG, electrocardiograph; GL, gastric lavage; PC, primary care; Rx, radiograph.

Acknowledgments

We want to thank the Working Group on Poisonings of the Spanish Society of Paediatric Emergency Medicine (Sociedad Española de Urgencias de Pediatría) ([Appendix A](#)).

Appendix A. Working Group on Poisonings of the Spanish Society of Paediatric Emergency Medicine.

Hospital (H.) Alto Deba: Agustín Rodríguez; H. del Tajo, Aranjuez: Carlos García-Yao; H.U. Arnau de Vilanova, Lleida: Neus Pociello; H.U. Basurto: Javier Humayor; H. Cabueñes: Ramón Fernández; H. Regional de Málaga: Silvia Oliva Rodríguez-Pastor; Complejo (C.) Hospitalario de Jaén: Tomás del Campo; C. Asistencial Universitario de León: Ana Gloria Andrés; Corporación Sanitaria Parc Taulí, Sabadell: Mireia Pérez; Hospital Universitario (H.U.) Cruces: Santiago Mintegi, Paula Santiago, Nerea Bilbao; H.U. Doce de Octubre: Sofía Mesa; H.U. Donostia: José Angel Muñoz Bernal; H.U. Dr. Peset. Valencia: J. Rafael Bretón Martínez; H.U. Fuenlabrada: Rocío Rodríguez; H. Francesc de Borja de Gandía: Carlos Miguel Angelats; Fundació Sant Hospital de la Seu d'Urgell: Pablo Javier Ercoli; H. Universitario Fundación Alcorcón: Alberto Barasoain; H. General Universitario de Alicante: Olga Gómez Pérez; H.U. Gregorio Marañón: Paula Vázquez; H. Infanta Cristina, Parla, Madrid: Begoña de Miguel; H. Infanta Elena, Valdemoro: Carmen Gómez; H. de Terrassa: Judit Barrena; H. Laredo: Ana Jorda; H.U. Lucus Augusti: Sandra Yáñez; H. Mendaro: Laura Herrero; H.U. Mutua Terrassa: Elena May Llanas; H.U. Niño Jesús: Juan Carlos Molina; H. Materno-Infantil de Las Palmas de Gran Canaria: Lily Mangione; H. Materno-Infantil de Badajoz: Paz Hurtado; H. Ntra. Sra. de Sonsoles, Ávila: Helvia Benito; H. Montepíncipe, H. Sanchinarro, H. Torrelozones, Madrid: Silvina Natalini; H. Príncipe de Asturias, Alcalá de Henares: M. Ángeles García Herrero; H.U. Puerta de Hierro-Majadahonda: Consuelo Benito Caldés; H. Rey Juan Carlos: Pablo Bello Gutiérrez; H.U. San Agustín: Juan Cózar Olmo; H.U. Río Hortega, Valladolid: Roberto Velasco; H. Sant Joan de Déu, Xarxa Hospitalaria i Universitaria de Manresa, Fundació Althaia: Eva Botifoll García; H.U. Sant Joan de Déu: Lidia Martínez Sánchez; H. San Pedro: Laura Martínez; H. Miguel Servet: Carmen Campos Calleja; H.U. Son Espases, Palma de Mallorca: Victoria López Corominas; H. Son Llätzer: Carmen Vidal Palacios; H.U. Central de Asturias, Oviedo: Julián Rodríguez; H. Universitario de Salamanca: Javier López Ávila; H.U. Virgen de la Arrixaca: Carlos Pérez; H. Virgen de la Salud, Toledo: Esther Crespo Rupérez; Complejo Hospitalario de Navarra: Miriam Palacios; H. Zumarraga: Amalia Pérez; H. Quirón, Bizkaia: Itziar Iturralde; H. Clínico U. Lozano Blesa: Gonzalo González García; H.U. Puerta del Mar, Cádiz: Arturo Hernández; H. Clínico U. de Valladolid: Elena Urbaneja Rodríguez;

Complejo Asistencial de Segovia: H. General: Rebeca Garrote; H.U. y Politécnico La Fe de Valencia: Rafael Señor; Hospital de Mataró: Joaquim Martorell Aymerich; H.U. Marqués de Valdecilla: José Lorenzo Guerra; H. Sierrallana: José Lorenzo Guerra; H. Gernika-Lumo: Alicia Gutiérrez and Complejo Hospitalario Universitario de A Coruña: Alicia Herrera.

References

1. Azkunaga B, Mintegi S, Bizkarra I, Fernández J, The Intoxications Working Group of the Spanish Society of Pediatric Emergencies. Toxicology surveillance system of the Spanish Society of Pediatric Emergencies: first-year analysis. *Eur J Emerg Med.* 2011;18:285–7.
2. Azkunaga B, Mintegi S, Del arco L, Bizkarra I, grupo de trabajo de intoxicaciones sociedad española de urgencias de pediatría. Cambios epidemiológicos en las intoxicaciones atendidas en los servicios de urgencias pediátricos españoles entre 2001 y 2010: incremento de las intoxicaciones etílicas. *Emergencias.* 2012;24:376–9.
3. Pélissier F, Claudet I, Pélissier-Alicot AL, Franchitto N. Parenteral cannabis abuse and accidental intoxications in children. Prevention by detecting neglectful situations and at-risk families. *Pediatr Emerg Care.* 2014;30:862–6.
4. Carstairs SD, Fujinaka MK, Keeney GE, Ly BT. Prolonged coma in a child due to hashish ingestion with quantitation of THC metabolites in urine. *J Emerg Med.* 2011;41:e69–71.
5. Croche B, Alonso MT, Loscertales M. Intoxicación accidental por cannabis: presentación de cuatro casos pediátricos en un hospital terciario del sur de España. *Arch Argent Pediatr Arch.* 2011;109:e4–7.
6. Míguez C, Rivas A, Vázquez P. Intoxicaciones por drogas ilegales II. In: Mintegi S, editor. *Manual de intoxicaciones en pediatría.* Madrid: Ergón; 2012. p. 266–70.

Beatriz Azkunaga^{a,*}, Esther Crespo^b, Silvia Oliva^c, Javier Humayor^d, Liliana Mangione^e

^a *Servicio de Pediatría, Hospital Universitario Cruces, Universidad del País Vasco, Bilbao, Vizcaya, Spain*

^b *Servicio de Pediatría, Hospital Virgen de la Salud, Toledo, Spain*

^c *Servicio de Pediatría, Hospital Regional de Málaga, Málaga, Spain*

^d *Servicio de Pediatría, Hospital Universitario Basurto, Bilbao, Vizcaya, Spain*

^e *Servicio de Pediatría, Hospital Materno-Infantil, Las Palmas de Gran Canaria, Las Palmas, Spain*

* Corresponding author.

E-mail address: beatriz.azcunagasantibanez@osakidetza.eus (B. Azkunaga).

2341-2879/

© 2016 Asociación Española de Pediatría. Published by Elsevier España, S.L.U. All rights reserved.