Award-winning abstracts at the 29 Congress of Clinical Toxicology/19 National Conference on Toxicovigilance of the Spanish Foundation of Clinical Toxicology (Madrid, September 24-25, 2025)

Comunicaciones premiadas en el 29 Congreso de Toxicología Clínica/19 Jornadas Nacionales de Toxicovigilancia, de la Fundación Española de Toxicología Clínica (Madrid, 24-26 de septiembre de 2025)

BEST CASE REPORTS

AUTOIMMUNE/INFLAMMATORY SYNDROME INDUCED BY VOLCANIC CLAY: DESCRIPTION OF A CASE REPORT

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Introduction/Objectives: ASIA syndrome (Autoimmune/Inflammatory Syndrome Induced by Adjuvants) encompasses inflammatory and autoimmune conditions triggered by immunologic adjuvants such as aluminum or silicone. Silica, a component found in volcanic rocks and natural clays, possesses immunostimulatory properties; however, its oral ingestion has not previously been recognized as a clinical trigger of autoimmunity. We present a case compatible with ASIA syndrome following the oral consumption of an unregulated supplement made from volcanic clay.

Materials and methods: Clinical, immunological, and toxicological analysis was conducted in a patient with systemic symptoms following consumption of a commercially available alternative product. A detailed environmental history, immunologic serologies, heavy metal analysis, neurophysiological testing, and imaging studies were conducted. Clinical evolution was evaluated after product withdrawal and initiation of immunosuppressive therapy.

Results/Case Description: A 38-year-old woman with no prior autoimmune history developed myalgias, migratory arthralgias, paresthesias, low-grade fever, and fatigue weeks after initiating an oral supplement marketed as "volcanic clay detox" (bentonite, zeolite, kaolinite, and diatomaceous earth). The patient ingested one teaspoon dissolved in water every 8 hours. Immunologic testing revealed positive ANA with a speckled pattern, weakly positive anti-DNA, and ANCA positivity by indirect immunofluorescence with a perinuclear pattern. ELISA quantification additionally showed elevated anti-myeloperoxidase (MPO) and anti-proteinase 3 (PR3) antibodies. Heavy metal levels were within normal limits. Neurophysiological testing demonstrated axonal sensory polyneuropathy. Positron emission tomography (PET) showed no inflammatory findings. The patient was treated with prednisone and the supplement was discontinued, achieving progressive clinical improvement and serologic normalization. No prior exposure to vaccines, infections, or implants was documented. A probable diagnosis of ASIA syndrome secondary to oral silica exposure with possible adjuvant effect was established.

Conclusions: This case suggests that repeated digestive exposure to natural silica in the form of volcanic clay may induce a systemic autoimmune response in predisposed individuals. Although not widely reported in the literature, this observation highlights the need for increased toxicological surveillance, regulatory oversight, and medical awareness regarding the growing use of these natural products and their potential immunologic impact.

PSYCHOTROPIC DRUG INTOXICATION AS "STROKE MIMICS": SIMULTANEOUS PRESENTATION IN A MARRIED COUPLE IN THE EMERGENCY DEPARTMENT

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Introduction: Stroke mimics account for up to 30 % of Code Stroke activations in emergency departments. Although toxic causes are rare, they must be considered in the differential diagnosis, particularly in atypical or synchronous presentations. The aim of this case is to highlight the importance of epidemiological context and clinical reassessment to avoid inappropriate treatments in scenarios that may simulate acute cerebrovascular disease.

Materials and methods: This is a case report observed in a tertiary-level emergency department is presented, in which 2 cohabiting patients were attended almost simultaneously due to acute neurological symptoms. Clinical findings, complementary examinations, clinical course, and diagnostic reorientation based on comprehensive family and social context assessment are described.

Case description: A 66-year-old woman with a past

DOI: DOI: 10.55633/s3me/REUE064.2025

medical history of hypertension and dyslipidemia was brought to the emergency department as a Code Stroke activation after sudden onset of dysarthria, right hemiparesis, and somnolence following a meal. On arrival, Glasgow Coma Scale was 13 and NIHSS 6, and an alteplase bolus was administered within the therapeutic window. Emergency neuroimaging (CT and CCTA) revealed no ischemic lesions or vascular occlusions, with an ASPECTS score of 10/10. During the patient's evaluation, her 71-year-old husband—initially an accompanying person—developed similar neurological symptoms with dysarthria, generalized weakness, and somnolence, prompting parallel assessment. Given the near-simultaneous neurological presentation in 2 cohabitants and the absence of structural findings on neuroimaging, the initial diagnosis was reconsidered, raising suspicion of toxic or environmental etiology, and rTPA infusion was discontinued.

Further history revealed an important social context: both patients lived with a son affected by paranoid schizophrenia on active treatment with multiple psychotropic drugs (clozapine, gabapentin, valproate, levomepromazine). Both patients also reported having consumed homemade soup the previous night that "tasted strange." A complete toxicological study was undertaken. Initial urine screening was negative; however, blood samples sent to Hospital Clínic de Barcelona confirmed the presence of clozapine in both patients, suggesting intoxication, presumably during the previous evening meal. Both patients evolved favorably with supportive measures, with progressive recovery of consciousness and complete resolution of neurological symptoms, without sequelae or need for hospital admission.

Conclusions: Synchronous presentation of acute neurological symptoms in cohabitants should raise suspicion of exogenous intoxication or environmental exposure. Epidemiological and social context is crucial in emergency diagnostic orientation. This case demonstrates the importance of integrating clinical, environmental, and toxicological data in decision-making, and how early reassessment can prevent unnecessary treatments such as thrombolysis in toxic stroke mimics.

BEST TOXICOVIGILANCE COMMUNICATION

MULTICENTER STUDY OF EMERGENCY DEPARTMENT CARE IN PATIENTS AFTER CAUSTIC INGESTION: PREDICTIVE FACTORS OF POOR PROGNOSIS

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Introduction: Caustic substances are chemical products capable of damaging any tissue with which they come into contact. Their oral ingestion, whether accidental or intentional, may produce injuries that can be severe or even fatal. This multicenter study evaluates emergency department care in patients who have ingested caustic substances in order to identify factors that may predict poor clinical outcome.

Materials and methods: We conducted a retrospective, observational data collection on caustic ingestions treated in 8 emergency departments from 7 different autonomous communities. Episodes were included if patients presented symptoms after oral ingestion and/or required diagnostic studies to complete their emergency care over a 7-year period (2015–2021). Epidemiological and clinical variables were defined. Two severity groups were established based on endoscopic criteria (Zargar scale < IIb or ≥ IIb), imaging findings (CT scan, Ryu scale), or death, for statistical analysis of predictors of poor prognosis.

Results: A total of 225 patients were included, 118 (52.4 %) women, with a mean age of 44.5 years (SD, ± 23.8). In 111 cases (49.3%) ingestion was intentional and in 114 (50.7 %) accidental. In 28 cases (12.4 %), the caustic substance was diluted in water. The time from ingestion could be established in 146 cases (64.9 %), with a mean of 1 hour (± 0.45 h). The most prevalent caustic agents were sodium hypochlorite (bleach) 110 (48.8 %), hydrochloric acid (muriatic acid) 37 (16.4 %), nitrogen trihydride (ammonia) 25 (11.1 %), and sodium hydroxide (caustic soda) 12 (5.3 %). Upper GI endoscopy was performed in 188 patients (83.5 %) and CT scan in 52 (23.1 %); both were performed in 42 cases (18.6 %). A total of 137 patients (60.9 %; 95 % CI, 54.2 %–67.3 %) required hospital admission, of whom 49 (35.8 %; 95 % CI, 27.8 %–44.4 %) were admitted to intensive care or resuscitation units. Follow-up was documented in 125 surviving patients (60.4 %), with sequelae detected in 16 % (95 % CI, 10.1 %–23.6 %). Eighteen patients died (8 %; 95 % CI, 4.8 %–12.3 %), half of them within the first 24 hours after ingestion. Patients with hydrochloric acid ingestion (OR, 5.82; 95 % CI, 1.50–22.5; $P = .011$) and intentional ingestion (OR, 3.70; 95 % CI, 1.92–7.12; $P < .001$) had significantly worse outcomes. When associated with leukocytosis > 15,000/mm^3, the risk of poor outcome increased to 95.7 %. Even in the absence of hydrochloric acid ingestion or intentionality, leukocytosis > 15,000 independently correlated with poor outcome (R = 0.903). The model's discriminatory capacity was 0.81 (95 % CI, 0.75–0.86; $P < .001$) based on ROC analysis.

Conclusions: The most prevalent caustic ingestions (sodium hypochlorite) and those that were accidental or diluted in water had favorable outcomes. In contrast, intentional or suicidal ingestions, hydrochloric acid ingestion, and leukocytosis > 15,000 were associated with worse outcomes in the studied series. These three factors should be considered prognostic in the emergency management of patients with caustic digestive injuries.

BEST RESEARCH COMMUNICATION

ALCOHOL INTOXICATIONS IN ADOLESCENTS: EVOLUTION ACCORDING TO SEX AND CONSUMPTION PATTERN (SINGLE TOXIN OR POLYSUBSTANCE USE); 14-YEAR EXPERIENCE

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Introduction and objectives: The ESTUDES survey provides periodic data on drug consumption among secondary school students (14–18 years) in Spain. The 2023 report describes that 36.4 % of respondents engaged in some type of polysubstance use (generally alcohol combined with other substances) in the previous 12 months, with higher prevalence among women. The aim of this study is to provide clinical data and describe the consequences of emergency department episodes related to alcohol intoxication (AI) associated with the consumption of other substances in adolescents.

Materials and methods: We conducted an observational, retrospective, and longitudinal study on episodes of alcohol intoxication in adolescents (13–18 years) treated in the Emergency Department of Hospital Universitario Son Espases from January 1st, 2010 through July 18th, 2023. Clinical and care-related variables were collected and analyzed according to age and the different substances consumed in addition to alcohol.

Results: Of 12,238 recreational alcohol intoxication episodes treated, 13.4 % involved adolescents; among these, 213 cases included polysubstance use in the same episode in addition to alcohol. Of these co-ingestions, 94.8 % involved cannabis, amphetamines, and cocaine, with a polysubstance pattern that increased with age. Most cases (80.3 %) involved 2 toxic agents; however, 5 cases (2.3 %), all in patients older than 16 years, involved 4 substances. The most common clinical presentation upon arrival at the emergency department after alcohol and other substance co-ingestion was decreased level of consciousness (33.8 %; $P < .001$) and aggressive or agitated behavior (32.4 %; $P < .001$), particularly in males with cannabis co-ingestion. Hypertension ($P < .005$), tachycardia, and palpitations ($P < .001$) were observed primarily in females aged 17–18 years and were associated with cocaine and amphetamine use. Antidotes were administered in 3 cases (flumazenil and naloxone together), and 34.2 % required sedation or pharmacological restraint. Blood ethanol levels were measured in 41.8 % of cases and were consistently higher in males, with the highest values observed in males aged 15–16 years.

There were no fatalities. The longest length of the emergency department stay corresponded to intoxicated patients aged 13–14 years. Five cases (2.34 %) required non-psychiatric hospital admission, primarily in patients older than 16 years.

Conclusions: In most emergency visits involving adolescents with recreational co-ingestion of alcohol and other toxic agents, two xenobiotics were consumed—most commonly cannabis, but also amphetamines and cocaine. Neurological and behavioral symptoms predominated in males, whereas cardiovascular symptoms were more frequent in females, with both increasing in parallel with age. When measured, ethanol levels were highest in the 15–16 year age group, and the longest emergency department stays occurred among patients aged 13–14 years.

BEST DEFENDED POSTER

ACCIDENTAL PARACETAMOL POISONING IN A NEONATE

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Paracetamol poisoning is the leading cause of drug-related intoxication in pediatrics. Although intoxication in neonates is infrequent, it is of particular interest because of their physiological immaturity.

Case report: A full-term neonate weighing 3 kg was admitted to the neonatal intensive care unit due to respiratory distress. Intravenous (IV) paracetamol was prescribed at a dose of 10 mg/kg (30 mg) for irritability unresponsive to comfort measures. At 36 hours of life, it was reported that, by error, paracetamol had been administered with sodium chloride in continuous infusion (8 mL/h) for 11 hours instead of the prescribed 10 % dextrose with sodium chloride (both containers were identical in appearance). The estimated amount of paracetamol administered was 352 mg/kg. The infusion was stopped and blood tests were performed, revealing paracetamol levels of 168 µg/mL, hypoglycemia (49 mg/dL), and coagulopathy (INR 1.34, prothrombin activity 63 %), with normal complete blood count and liver profile. Clinically, the patient presented with vomiting.

Treatment with IV N-acetylcysteine (NAC) was initiated following the ToxSEUP protocol, using the SNAP regimen of 100 mg/kg during the first 2 hours followed by 200 mg/kg, along with intravenous vitamin K and antibiotic therapy. Laboratory monitoring showed a progressive decrease in paracetamol levels until they became undetectable 32 hours after treatment initiation. Initially, coagulation worsened, with prothrombin activity decreasing to 42 % and INR prolongation up to 1.72 at 16 hours after treatment initiation, followed by improvement and normalization at 72 hours. The complete blood count and liver profile showed no abnormalities at any time. Intravenous NAC was discontinued at 72 hours after confirmation of normal laboratory results. The patient was discharged after 2 days with normal clinical and laboratory findings.

Discussion: Paracetamol poisoning is the most common drug-related intoxication in pediatrics, although it is exceptional in neonates. During the first 6 months of life, hepatic metabolism is immature, as the liver contains ap-

proximately 20 % fewer hepatocytes and has reduced metabolic capacity. In infants younger than 2 months, doses greater than 75 mg/kg may be toxic. In addition, drug clearance is slower than in older children and adults, which prolongs the elimination half-life and increases the risk of toxicity from accumulation of repeated doses. In cases of acute oral overdose, the Rumack–Matthew nomogram is used to monitor plasma paracetamol concentration. However, its usefulness in IV intoxication is unclear and it should not be used in cases of toxicity due to repeated-dose accumulation. Several risk factors are associated with IV paracetamol intoxication, including dosing errors. Confusion between 100 mL containers of 10 % dextrose and IV paracetamol (10 mg/mL) was the cause of this intoxication, which could be prevented by using different packaging for medications and infusion solutions.