REV COLOMB ANESTESIOL. 2016;xxx(xx):xxx–xxx

Revista Colombiana de Anestesiología
Colombian Journal of Anesthesiology
www.revcolanest.com.co

Case report

Severe anaphylaxis reaction from dipyrone without a history of hypersensitivity. Case report☆

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ARTICLE INFO

Article history:
Received 19 March 2015
Accepted 5 November 2015
Available online xxx

Keywords:
Dipyrone
Anaphylaxis
Pharmacovigilance
Drug-related side effects and adverse reactions
Drug hypersensitivity

ABSTRACT

Introduction: The safety of dipyrone has been the object of numerous debates, since severe allergic reactions to it can occur with an estimated incidence of 1 in 5000 parenteral administrations.
Clinical findings: We report the case of one patient who, after an infusion with dipyrone, presented coughing, pharynx itch, dyspnea, generalized cyanosis, and decreased consciousness. The diagnosis of anaphylactic shock without a history of hypersensitivity to the medication was made, and despite treatment with orotracheal intubation, adrenaline, hydrocortisone, sodium chloride, and sodium bicarbonate, it was fatal for the patient.
Conclusion: Cases of severe hypersensitivity without antecedents can be present in patients, which makes it important to recognize this risk in our patients.

Reacción de anafilaxia grave por dipirona sin antecedente de hipersensibilidad. Informe de caso

Palabras clave:
Dipirona
Anafilaxia
Farmacovigilancia
Efectos colaterales y reacciones adversas relacionados con medicamentos

RESUMEN

Introducción: La seguridad de la dipirona ha sido objeto de numerosos debates, ya que pueden aparecer reacciones alérgicas graves cuya incidencia estimada es de 1 en 5.000 administraciones parenterales.
Hallazgos clínicos: Se reporta un caso de una paciente que luego de una infusión con dipirona presenta tos, prurito faríngeo, disnea, cianosis generalizada y deterioro del estado de conciencia. Se hizo el diagnóstico de shock anafiláctico sin antecedentes previos de hipersensibilidad al medicamento, que a pesar del tratamiento con intubación

☆ Please cite this article as: Machado-Alba JE, Urbano-Garzón SF, Gallo-Gómez YN, Zuluaica S, Henao Y, Parrado-Fajardo IY. Reacción de anafilaxia grave por dipirona sin antecedente de hipersensibilidad. Informe de caso. Rev Colomb Anestesiol. 2016. http://dx.doi.org/10.1016/j.rca.2015.11.010

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2256-2087/

Hipersensibilidad a las drogas

orotraqueal, adrenalina, hidrocortisona, cloruro de sodio, y bicarbonato de sodio, resultó fatal.

Conclusión: pueden presentarse casos de grave hipersensibilidad en pacientes sin antecedentes de ésta, lo que hace importante reconocer este riesgo en nuestros pacientes.

Introduction

Dipyrone (metamizole), derived from pyrazolone, is a non-opioid analgesic used for treating acute and chronic pain. It possible acts at the spinal and supraspinal level, and in the traumatized tissue. It is believed that it inhibits isoenzyme cyclooxygenase-3 especially in the central nervous system. It has antispasmodic properties, relaxing smooth muscle, and antipyretic effects at the level of the hypothalamic thermoregulatory center.[1,2]

Nevertheless, its safety generates numerous debates due to its association with agranulocytosis and anaphylaxis, for which it is banned in countries like the United States, while in others it is freely and widely used since is it cost effective and can be administrated through different routes.[1,2] Although infrequent, allergic reactions as severe and lethal as anaphylactic shock and Stevens-Johnson syndrome can appear, even with fatal outcomes.[1,3]

Case description

Patient information and medical history

72-Year-old patient, female sex, of mestizo race, with a clinical picture of 12 hours of evolution characterized by general malaise, myalgia, arthralgia mainly in the knees, polyuria, and non-quantified fever. Medical history of arterial hypertension treated with 25 mg of captopril per day. Surgical history of lipoma resection and unspecified eye surgery; also an ex-smoker. She attended the same clinic four months previously with fever and urinary tract infection, which was treated with 1 g of intravenous (IV) dipyrone in a single dose in the hospital. She was released with acetaminophen and ciprofloxacin, without any drug-related adverse reactions.

Clinical findings

Admitted with 150/80 mmHg blood pressure, heart rate of 110ɣbpm, a respiratory rate of 20 breaths per minute, temperature of 38.5 °C, conscious and oriented without other findings in the physical examination. A diagnosis only of urinary tract infection and febrile syndrome was made. Paraclinical examinations are described in Table 1. There was insufficient time to perform urinalysis.

Therapeutic intervention

1 g of dipyrone was administered in 250 mL of 0.9% sodium chloride via IV. After injection of less than 20 mL of the solution, within two minutes from the start of the infusion, the patient referred to pruritus in the extremity where the venous access was located. Later, she presented coughing, pharyngeal pruritus followed by dyspnea, generalized cyanosis, and decreased consciousness with pupils unreactive to light. The infusion was immediately suspended, but the patient entered cardiorespiratory arrest. Cardiopulmonary resuscitation was initiated. Ventilation was performed with a bag valve mask and, later, with orotracheal intubation.

Table 1 – Results of paraclinical examinations upon admission of a patient with anaphylactic shock from dipyrone in a third level clinic.

Paraclinical examination	Value
Blood and leukocyte count	
White blood cell count (per ml)	16 330
Red blood cell count (per ml)	4 760 000
Hemoglobin (g/dl)	14.11
Hematocrit (%)	40.1
Mean corpuscular volume (fl)	84.2
MCH (pg)	29.6
MCHC (g/dl)	35.2
Platelet count (per ml)	209 000
Lymphocytes (%)	4.6
Monocytes (%)	3.5
Neutrophils (%)	91.7
Eosinophils (%)	0.1
Basophils (%)	0.1
Lymphocytes	800
Monocytes	600
Neutrophils	15 000
Eosinophils	0
Basophils	0
RDW-CV (%)	14
MPV (fL)	10.5
Blood chemistry	
Creatinine (mg/dl)	0.51
Glycemia (mg/dl)	165
Urea nitrogen (mg/dl)	9.8
C-reactive protein (mg/l)	11.8

Source: Authors.

Pharmacological intervention

1 mg of adrenaline was administered via IV every 5 min to a total of 5 doses along with 200 mg of hydrocortisone and 500 mL of 0.9% sodium chloride via IV. In addition, defibrillation was performed on 3 occasions and 300 mg of amidarone (IV) was administered due to the presence of fine ventricular fibrillation. Later, the decision was made to administer 50 mEq of sodium bicarbonate, considering acidosis. After 40 min of resuscitation efforts, a return to spontaneous circulation was