Case Report

Amitraz Poisoning: Case of uncommon poison presenting like a common poison

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Abstract

Amitraz is 1,5 di-(2,4 dimethyl phenyl)-3-methyl-1,3,5-triazapenta-1,4-diene used as ectoparasiticide for pets. Amitraz poisoning is rare and often mimics common poisoining like Organophosphorus poisoning and opiod poisoning in its clinical presentation but requires most of time symptomatic management and outcome is good if diagnosed early. Here we report rare case of Amitraz poisoning managed conservatively with good outcome of patient.

Keyword : Amitraz,poisoning

Introduction

Amitraz which is 1,5di-(2,4 dimethyl phenyl)-3-methyl-1,3,5-triazapenta-1,4-diene belongs to form-amidine family. It is used as ectoparasiticide for dogs and pets. It is available as 12.5 to 50% aqueous solution 1:100 to 1:1000 ratio for which solvent used is xyline and other aromatic hydro-carbons.Though Amitraz is widely available worldwide ,first human poisoning case was reported in year 1983.[1-3]Its poisoning is often misdiagnosed as OPC poisoning. We present a case of Amitraz poisoning in a 56 year old female patient.

Case report

A 56 year old female brought by relatives to casualty room in evening with history of altered sensorium, drowsiness and few episodes of vomiting after consumption of some substance used to kill ectoparasite on her pet dog. After further inquiry relative brought a substance with trade name RIDD (liquid amitraz dip concentrate 12.5%) which the patient has ingested. Patient also is a known diabetic since 20 years on treatment[4]On examination patient's BP was 160/100 mm Hg, Pulse rate was 52/min, regular. On CNS examination patient was drowsy but arousable, pupils were 1mm, bilateral equal and pupillary reflex was absent and superficial reflexes were absent and deep reflexes were diminished. On respiratory system examination air entry was decreased bilateral and fine crept was present in bilateral infrascapular region. Per abdomen and cardiovascular examination were within normal limit[5-7]

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Invesigations

On day 1 Hb 15.3 gm/dl,TLC 9600/mm^3,PLT COUNT 2.62 lakhs per mm^3,MCV 84.2fl,MCH 28.1pg/cell, MCHC 33.3 gm/dl,Bili(T) 0.81 mg/dl, Bili(D)0.16 mg/dl ,SGOT(u/L) 22,SGPR(u/L)18,ALK PO4 137u/L, TPR 7.77 g/dl, Albumin 4.63 g/dl,Urea 34 mg/dl, Capillary blood glucose 331 mg/dl, S.Creatinine 0.58 mg/dl, Uric acid 4.7 mg/dl, Na^+143mEq/L, K^+ 4.3 mEq/L, Cl^-103 mEq/L,PT 15,INR 1.38, Aptt 34.2, HBA1C 10.8. Urine findings were clear with pH 6.5, sugar 3+, pus cells 2-3,epithelial cells 6-7. ECG Normal sinus rhythm with bradycardia.chest X ray normal.ABG Ph 7.31, po2 78 mmHg, pco2 52mmHg, lactate 1.1 mmol/L, bicarbonate 26.2mmol/L, spo2 94%. Serum acetyl cholinesterase levels were within normal lab range. TSH 0.773 IU/ml, T3 0.819 IU/ml, T4 14.84 IU/ml. CT Brain shows no abnormality

Discussion

Amitraz is alpha 1 and alpha 2 agonist in nature and can cause respiratory, CNS depression, bradycardia, hypertension,hypotension,hyperglycemia,fever,hypothermia. In our case patient has features of CNS and respiratory depression with respiratory acidosis with miosis with bradycardia with hypertension and hyper-glycaemia. Supportive treatment was given Inj atropine 2cc IV SOS when heart rate was <60 and IV fluid was given, ABG and vitals were monitored. Patient sensorium improved and became fully conscious after 24-48 hours and heart rate became normal, vitals and blood sugar level came within normal limits [8-10]

Conclusion

Amitraz poisoning is uncommon and mimics common poisoning like OPC and sedative poisoning. It should be

closely monitored in ICU for respiratory, central nervous system and cardiovascular menifestations.If suspected, diagnosed and intervened early fatal complications can be easily avoided.

References

1. Eizadi-Mood N, Sabzghabaee AM, Gheshlaghi F, Yaraghi A. Amitraz poisoning treatment: still supportive?Iran J Pharm Res.2011;10(1):155-158.
2. Herath HM, Pahalagamage SP, Yogendranathan N,Wijayabandara,Kulatunga A.Amitraz poisoning: A case report of an unusual pesticide poisoning in Sri Lanka and literature review. BMC Pharmacol Toxicol. 2017;18(1):6.
3. Dhooria S, Agarwal R. Amitraz, an under recognized poison: A systematic review. Indian J Med Res. 2016 ;144(3):348-358.
4. Jorens PG, Zandijk E, Belmans L, Schepens PJ, Bossaert LL. An unusual poisoning with the unusual pesticide amitraz. Hum Exp Toxicol. 1997 ; 16(10):600-1.
5. Jorens PG, Zandijk E, Belmans L, Schepens PJ, Bossaert LL. An unusual poisoning with the unusual pesticide amitraz. Hum Exp Toxicol. 1997 ;16(10):600-1.
6. Veale DJ, Wium CA, Muller GJ. Amitraz poisoning in South Africa: a two year survey (2008-2009). Clin Toxicol (Phila). 2011 ;49(1):40-4.
7. Bonsall JL,Turnbull GJ. Extrapolation from safety data to management of poisoning with reference to amitraz (a formamidine pesticide) and xylene. Hum Toxicol. 1983;2(4):587-92.
8. Shitole DG, Kulkarni RS, Sathe SS, Rahate PR. Amitraz poisoning-an unusual pesticide poisoning. J Assoc Physicians India. 2010 ;58:317-9.
9. Sweta, Srivastava U, Agarwal A. Amitraz: An unfamiliar poisoning with familiar pesticide. J Anaesthesiol Clin Pharmacol. 2013 ;29(3): 420-1.
10. Veale DJ, Wium CA, Müller GJ. Toxico vigilance. I: A survey of acute poisonings in South Africa based on Tygerberg Poison Information Centre data. S Afr Med J. 2013;103(5):293-7.

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