Int J Pharm Bio Sci 2014 Jan; 5(1): (B) 1043 - 1045

Case Report Microbiology

International Journal of Pharma and Bio Sciences ISSN 0975-6299

A RARE CASE REPORT: SINGLE INTRAVENOUS DOSE OF RANITIDINE LEADING TO CARDIAC ARREST.

DR RITESH MAHAJAN*[1], DR NAGARAJ TM[2], DR PRAVEEN KUMAR[3], DR SHIVANAGOUDA PATIL[4] AND DR ROSHNA MOYIN[5]

[1]Resident in department of Otorhinolaryngology, Rajarajeswari Medical College and Hospital Mysore road, Bangalore-56007 (India)
[2]Professor and Head of Department in Otorhinolaryngology, Rajarajeswari Medical College and Hospital, Mysore road, Bangalore – 560074
[3]Associate Professor in department of Otorhinolaryngology, Rajarajeswari Medical College and Hospital, Mysore road, Bangalore-560074
[4]Resident in department of Otorhinolaryngology, Rajarajeswari Medical College and Hospital, Mysore road, Bangalore-56007
[5]Resident in department of Otorhinolaryngology, Rajarajeswari Medical College and Hospital, Mysore road, Bangalore-56007

ABSTRACT

Ranitidine is a well known drug and sold over the counter all over the world, it was the most popular drug from 1981 to 1988 and used regularly in today's practice. It is well tolerated and with negligible side effects. This case report illustrates a sudden cardiac depression after the single intravenous dose of 50 mg ranitidine due to which patient had a sudden cardiac arrest.Patient - A 32 year old female, who was to be operated for Hemithyroidectomy, was given intravenous ranitidine pre operatively, she went on to develop sudden cardiac depression and cardiac arrest.Despite initial resuscitative efforts and intensive care, patient developed supra ventricular tachycardia day after the attack and succumbed to cardio respiratory arrest.While administering in the intravenous form, adverse drug reaction in the form of sudden cardiac depression with ranitidine is very rare but it should always be remembered, as knowledge about this drug can prevent the future co morbidities.

KEYWORDS: Rantac, Adverse drug reaction, sudden cardiac arrest

DR RITESH MAHAJAN
Resident in department of Otorhinolaryngology, Rajarajeswari Medical College and Hospital Mysore road, Bangalore-56007 (India)

*Corresponding author

INTRODUCTION

Ranitidine (Zantac, Rantac) is a widely used drug all over the world. It is a H2 receptor antagonist and mostly used for gastrointestinal system disease and others. It is a safe drug which is easily available over the counter and routinely used for pre anaesthetic medication. Incidence rate of Side effects along with proton pump inhibitors are 0.3%-0.7%[1]. Rapid intravenous infusion may cause bradycardia and hypotension through blockade of cardiac H2 receptors. Main purpose of this case report is to make aware the clinicians about the life threatening complications of this drug, so that appropriate immediate measures can be taken to save life.

CASE REPORT

A 32 years old female presented with swelling in front of neck from last 5 months, she was admitted under our care and was diagnosed to have multinodular cystic enlargement of left lobe of thyroid, and fine needle aspiration cytology report was suggestive of colloid goitre with cystic change. There was no past history of any surgery, hospitalization, or drug allergy. All the blood investigations, viral and serological markers were normal. She was euthyroid and was planned for diagnostic hemi thyroidectomy. Pre operatively 50 mg of intra venous Rantac was given to the patient, within few minutes after the injection she started complaining of giddiness, difficulty in breathing, and became comatose. Glasgow Coma Scale was 6, pulse was 30 beats per minute and BP was not recordable. Patient was intubated and immediate resuscitation measures were taken, Cardiopulmonary Resuscitation was started along with oxygen mask. Steroids and other inotropic drugs were administered and the patient was shifted to intensive care unit, and was put on ventilatory and inotropic support. She revived with pulse rate of 90 beats per min, BP 110/70 and urine output of 500 ml, inotropic drugs were continued along with other supportive medicines, but next day patient developed supra ventricular tachycardia and sudden cardio respiratory arrest, immediately Cardiopulmonary resuscitation was commenced and defibrillator was used but patient couldn't be revived and was declared dead. Autopsy was not done due to refusal from patients relatives and case was reported within 1 week to the institutional pharmacovigilence committee.

DISCUSSION

Ranitidine is a H2 receptor antagonist and is mainly used for peptic ulcer disease and Gastro esophageal reflux disease, no doubt that its safety profile is good and previous studies approve it[2,3]. But, as far as adverse drug reaction and side effects of this drug is concerned, it is also well known, that this drug can decrease mucosal perfusion in patients with acute renal or cardiac failure, and increases their risk of death[4]. Rapid intravenous infusion of Ranitidine may cause bradycardia and hypotension through blockade of cardiac H2 receptors; therefore, intravenous injections should be given over 30 minutes. Ranitidine and other histamine H2 receptor antagonists may increase the risk of pneumonia in hospitalized patients[5], may increase risk of thrombocytopenia[6] and as per our literature study only 1 death has been reported so far[7]. Anaphylactic reaction to ranitidine is rare and only a few cases have been reported in the literature. Most of the patients reported were obstetric patients[8,9,10]. Cardiovascular side effects are extremely rare, unpredictable and mostly comprise of sinus bradycardia and atrio-ventricular blockade, especially after rapid intravenous administration. Clinical studies however have not shown a significant pharmacological effect of ranitidine on the cardiovascular system, even though individual sensitivities can not be ruled out in a few rare reports. With references to this patient no specific reason can be identified for such reaction, as no other intravenous or oral drug was administered prior to surgery. Management was directed towards combating the severe anaphylactic reaction, and no other cause can

be attributed for this type of Type 1 hypersensitivity reaction according to the Gell and Coombs Classification System. Adverse drug reactions (ADRs) are global problems of major concern and considered as one among the leading causes of morbidity and mortalityThis case reminds us how commonly we come across these kinds of situations and these types of cases are far more important as medico legal issues. Explaining cause of death to patient's relative can become practically very difficult. For all these reasons the further research, studies and case reporting should be more extensive and easily approachable. However, adverse drug reaction can happen with any drug but our knowledge about the rare side effects, precautions while intravenous drug administration and timely intervention would avoid morbidity and mortality thereby limiting these incidents which can save precious life of others.

CONCLUSION

This case report was prepared to highlight a rare and unusual adverse reaction to a commonly used drug. Monthly ADRs reporting should be assessed and a brief presentation should be done in teaching institutions/conferences. The primary aim is to make the clinicians aware that although the incidence of cardiac side effects related to ranitidine is low but caution needs to be exercised on intravenous administration of this drug.

REFERENCES

1. Demirkan K, Bozkurt B, Karakya G, Kalyonuc AF. Anaphylactic reaction to drugs commonly used for gastrointestinal system disease. J Investig Allergol Clin Immunol 2006;16:203-9.
2. Frampton JE, McTavish D: Ranitidine: a pharmacoeconomic evaluation of its use in acid-related disorders. Pharmacoeconomics 1994, 6:57-89.
3. Grant SM, Langtry HD, Brogden RN: Ranitidine. An updated review of its pharmacodynamic and pharmacokinetic properties and therapeutic use in peptic ulcer disease and other allied diseases. Drugs 1989, 37:801-870.
4. Jakob SM, Parviainen I, Ruokonen E, et al. (2005). "Lack of effect of ranitidine on gastric luminal pH and mucosal PCO2 during the first day in the ICU". Acta Anaesthesiol Scand 49 (3): 390–396.
5. Mallow S, Rebuck JA, Osler T, et al. (2004). "Do proton pump inhibitors increase the incidence of nosocomial pneumonia and related infectious complications when compared with histamine-2 receptor antagonists in critically ill trauma patients?". Curr Surg 61 (5): 452–458.
6. Amit V Bangia, Narendra Kamath, and Vidushi Mohan (2011). "Ranitidine-induced thrombocytopenia: A rare drug reaction.". Indian J Pharmacol 43 (1): 76-7.
7. Fatal injection of ranitidine: a case report. Antonio Oliva, Sara Partemi, Vincenzo Arena, Fabio De Giorgio, Catia Colecchi, Nadia Fucci and Vincenzo L Pascali. Journal of Medical Case Reports 2008, 2:232.
8. Powell JA, Maycock EJ: Anaphylactoid reaction to ranitidine in an obstetric patient. Anaesth Intensive Care 1993, 21(5):702-3.
9. Barry JE, Madan R, Hewitt PB: Anaphylactoid reaction to ranitidine in an obstetric patient. Anaesthesia 1992, 47(4):360-1.
10. Greer IA, Fellows K: Anaphylactoid reaction to ranitidine in labour. Br J Clin Pract 1990, 44(2):78.
11. Cullen DJ, Bates DW, Small SD, Cooper JB, Nemeskal AR, Leape LL: The incident reporting system does not detect adverse drug events: a problem for quality improvement. *J Comm J Qual Improv* 1995, 21:541-48.