JKMS

http://dx.doi.org/10.3346/jkms.2013.28.4.640 • *J Korean Med Sci 2013; 28: 640-641*

The Author Response

Suspected Anaphylactic Reaction Associated with Microemulsion Propofol during Anesthesia Induction

Se Jin Lee

Department of Anesthesiology and Pain Medicine, Soonchunhyang University Seoul Hospital, Seoul, Korea

To the Editor:

We prepared a case report entitled 'Suspected Anaphylactic Reaction Associated with a Microemulsion of Propofol during Anesthesia Induction' (1). However, one reviewer commented that we should have considered midazolam (2), remifentanil (3), rocuronium (4), ephedrine (5), dexamethasone (6), epinephrine (7), poloxamer 188 (8), and polyethylene glycol (9) in addition to a microemulsion of propofol (10).

The referenced study (10) concerned propofol not a microemulsion of propofol. In that study, tryptase was normal and the patient had the allergy history to soybean, so they speculated the soybean of the intralipid as the cause of anaphylactic reaction.

The mentioned study was about hypersensitivity to midazolam (2). In the study, IgE immunoassay result was in normal. But, after 3 months the inspection, result of intradermal test was positive in the midazolam. It is difficult to diagnose Kounis syndrome, which is a type I hypersensitivity initiated from mast cells with degranulation. The source for a referenced study was wrong, because subject of that study was transdermal fentanyl, not remifentanil (3).

Li et al.'s report (7) had no relation with hypersensitivity (hypersensitivity reaction). The contents of the study was that bimatoprost lowered ocular hypertension generated by the topical dexamethasone effectively and the topical dexamethasone raised the ocular pressure falling by the bimatoprost.

Of course, all medicines mentioned could directly or indirectly result in a patient's anaphylactic reaction rarely. However, in the present case, since injected drugs prior to the reaction were sequentially remifentanil and microemulsion propofol, the authors illustrated the anaphylactic reaction by microemulsion propofol administration among many factors. The correspondence mentioned that fentanyl could increase IgE mediated anaphylaxis, but because it was not administered to the patient, it seemed not to be an appropriate example.

We thought that the cause of the reaction was remifentanil or microemulsion propofol . The skin test was negative and the negative result showed no presence of the IgE antibody. Therefore the non-IgE-mediated anaphylactic reaction was estimated.

In addition, PP188 added to a microemulsion propofol has been reported as a cause for a non-IgE-mediated anaphylactic reaction known as the C-activation-related pseudoallergy (11). Of course, the authors do not deny the probability that there could be a false negative reaction.

Clinically, we agree that the reaction could be caused by many potential factors not one. The authors did not consider intracoronary mast cell activation (12). In our case, there was no EKG change including ST segment elevation and there was a decrease in blood pressure and tachycardia. We were unable to verify by coronary angiography if there was a vasospasm. The possibility for Kounis syndrome seemed small.

The correspondence stated that sulfite was included in the epinephrine, but epinephrine is still the drug of choice for anaphylaxis to sulfite-sensitized patients even though its use is controversial. In addition, we do not have access to preservative-free epinephrine.

REFERENCES

1. Lee SJ, Kim SI, Jung BI, Lee SM, Kim MG, Park SY, Kim SH, Ok SY. *Suspected anaphylactic reaction associated with microemulsion propofol during anesthesia induction. J Korean Med Sci 2012; 27: 827-9.*
2. Hwang JY, Jeon YT, Na HS, Lee JH, Choi SJ, Jung SH. *Midazolam hypersensitivity during the transportation to theater: a case report. Korean J Anesthesiol 2010; 59: S1-2.*
3. Dewachter P, Lefebvre D, Kalaboka S, Bloch-Morot E. *An anaphylactic reaction to transdermal delivered fentanyl. Acta Anaesthesiol Scand 2009; 53: 1092-3.*
4. Fagley RE, Woodbury A, Visuara A, Wall M. *Rocuronium-induced coronary vasospasm: "Kounis syndrome". Int J Cardiol 2009; 137: e29-32.*
5. Tsuchimoto T, Miyazaki H, Suzuki E, Maekawa N. *Case report: severe anaphylactic shock followed by positive skin-prick-test to multiple vasoconstrictors. Masui 2010; 59: 788-91.*
6. Li X, Liu G, Wang Y, Yu W, Xiang H, Liu X. *A case hypersensitive to bimatoprost and dexamethasone. J Ocul Pharmacol Ther 2011; 27: 519-23.*
7. Ameratunga R, Webster M, Patel H. *Unstable angina following anaphylaxis. Postgrad Med J 2008; 84: 659-61.*

pISSN 1011-8934
eISSN 1598-6357

8. Moghimi SM, Hunter AC, Dadswell CM, Savay S, Alving CR, Szebeni J. *Causative factors behind poloxamer 188 (Pluronic F68, Flocor)-induced complement activation in human sera: a protective role against poloxamer-mediated complement activation by elevated serum lipoprotein levels. Biochim Biophys Acta. 2004; 1689: 103-13.*
9. Shah S, Prematta T, Adkinson NF, Ishmael FT. *Hypersensitivity to polyethylene glycols. J Clin Pharmacol 2013; 53: 352-5.*
10. You BC, Jang AS, Han JS, Cheon HW, Park JS, Lee JH, Park SW, Kim DJ, Park CS. *A case of propofol-induced oropharyngeal angioedema and bronchospasm. Allergy Asthma Immunol Res 2012; 4: 46-8.*
11. Szebeni J. *Complement activation-related pseudoallergy caused by amphiphilic drug carriers: the role of lipoproteins. Curr Drug Deliv 2005; 2: 443-9.*
12. Biteker M. *Current understanding of Kounis syndrome. Expert Rev Clin Immunol 2010; 6: 777-88.*
13. Kounis NG, Tsigkas GG, Almpanis G, Kouni SN, Kounis GN, Mazarakis A. *Suspected recurrent anaphylaxis in different forms during general anesthesia: implications for Kounis syndrome. J Anesth 2011; 25: 790-1.*
14. Kounis GN, Hahalis G, Kounis NG. *Anesthetic drugs and Kounis syndrome. J Clin Anesth 2008; 20: 562-3.*

Address for Correspondence:
Se Jin Lee, MD
Department of Anesthesiology and Pain Medicine, Soonchunhyang University Seoul Hospital, 59 Daesagwan-gil, Yongsan-gu, Seoul 140-743, Korea
Tel: +82.2-709-9302, Fax: +82.2-790-0394
E-mail: alvesta@schmc.ac.kr