Reviewer’s report

Title: Low-Dose, Continuous Brachial Plexus Block In The Management Of Purple Glove Syndrome: A Case Report

Version: 1 Date: 16 June 2009

Reviewer: JG Antonakakis

Which of the following following best describes what type of case report this is?: Other

If other, please specify:

see general comments

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: Yes

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: Yes

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

This is a case report of a patient who developed purple glove syndrome and was treated with a continuous brachial plexus blockade with bupivicaine and fentanyl.

General Points:

The author’s should be congratulated on the excellent care of this patient. Overall it is an interesting report however it is unclear to this reviewer what the novelty of this case report is. It does not become apparent until the last sentence of the discussion where the authors state that the use of low dose bupivicaine for the
treatment of “purple glove syndrome” has not been described before. If this is the case, then the authors should state this early in the manuscript and specifically discuss the mechanism of action and pharmacodynamics of a low dose bupivicaine infusion. What other agents have been used? What are the advantages and disadvantages of bupivicaine? Has Ropivicaine been used? Are there safer alternatives?

In the last sentence of the introduction, the authors state that the added advantage of low dose bupivicaine is the fact that it preserves motor function to facilitate physiotherapy. Is this its main advantage or is it the sympathectomy that is created? Or is it the sympathectomy the main advantage and the pain relief to facilitate physiotherapy an added benefit? With a stellate block it is the sympathectomy that is sought after. A few words on how a sympathectomy provides benefit should be discussed.

I would like to know how and where this 20 G catheter is placed? The author’s state in the interscalene grove, but where? Is it placed high in the neck or in the supraclavicular region? If placed high in the neck as we do interscalene blocks for shoulder surgery, it is unlikely that the C8-T1 nerve roots will be adequately covered especially with an infusion going at 1-2 ml/hr. The C8-T1 nerve roots are especially important because it provided much of the innervation to the hand and to the analgesic benefits that the authors suggest for physiotherapy.

Supraclavicular blocks (which are also interscalene) are utilized in anesthesia practices for arm, forearm, and hand surgery. However, at 1-2 ml/hr I remain skeptical that this rate will provide adequate analgesia to the C8-T1 distribution.

What is the benefit of fentanyl? Peripheral opioid receptors have not been described. Therefore I question the peripheral actions of fentanyl. If anything, fentanyl is probably being absorbed and acting systemically. Why not use clonidine?

Overall, it is an interesting report but the authors need to state early in the introduction that the novelty of the report is the use of low dose bupivicaine to treat this syndrome and discuss the mechanisms of actions and the pharmacodynamics of a low dose bupivicaine infusion.

Does the case report have explanatory value?

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NO. Since low dose Bupivicaine has not been previously described, the authors have not specifically addressed the mechanism of action and pharmacodynamic profile.

Quality of written English: Acceptable

Declaration of competing interests:

I declare that I have no competing interests