Reviewer's report

Title: A postoperative neurological aggravation with sevoflurane in patient with Xeroderma Pigmentosum: a case report.

Version: 6 Date: 23 November 2012

Reviewer: Alain SARASIN

Which of the following best describes what type of case report this is?: An unexpected event in the course of observing or treating a patient

Has the case been reported coherently?: No

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?: No

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:

Report concerning the paper by S. FJOUJI et al.
The description is interesting since most of XP patients have to go often to surgery due to their high numbers of tumours.
I have two types of comments. One on the genetics of XP and others on the anesthesia.

1) A major point missing in this paper is the type of XP of the described patients. Indeed there are 7 different genes involved in classical XP (XPA to XPG) and one gene for XP variant.

It is important to know which type of gene is involved in the patient because only XPC, XPE and XP variant patients don't have neurological disorders while the
others show major and progressive neurological abnormalities as indicated in the discussion of the paper and reference 8. The majority of XP patients in Morocco belong to the XPC group with no neurological abnormalities, but also a large number of patients are XPA and XPD, which are characterized by a progressive neurological deterioration. The authors, if they don’t know the gene involved, should at least better described the clinical features of their patient, particularly they should tell us what is the neurological state of the patient before the surgery. The implication of their discovery is, of course, very different if the patient did not exhibit any neurological abnormalities before the surgery, or if she did.

2) The authors did not tell us if this abnormal reaction to sevoflurane was observed in their clinical practice with non-XP patients. If this abnormal response was not described previously with their other patients they should tell us approximately how many patients have been through anesthesia using the same protocol.

3) Before incriminating the sevoflurane, you have to eliminate the other causes as post-operative O2 desaturation, residual paralysis or seizures:

- Did you monitor the BIS during surgery and did you think that this monitoring would improve the adjustment of anesthesia depth?

- Did you monitor the level of muscle paralysis after cisatracurium injection? We know that XP patients are sensitive to muscle relaxants due to the neuronal dysfunction. This point must be discussed.

- You have to describe the recovery of the anesthesia: Delay of recovery after end of surgery, reversal of muscle relaxant, ventilator weaning etc. What happens during the 4 hours before awaking in the recovery room?

- Did you record SpO2 after surgery and how long she stayed in recovery room?

4) There is lack of evidence to suggest volatile anesthetics-induced neurotoxicity in humans. In this regard, the contribution of general anesthesia/anesthetics to postoperative cognitive decline has not been established. This point should be discussed. There are recent papers recently published by Zuo Z. on this subject. Because, XP patients are often anesthetized, it is important to answer these questions before incriminating this type of anesthetic, which is regularly used.

Quality of written English: Acceptable

Declaration of competing interests:

'I declare that I have no competing interests'