

$C_i$ : concentration du produit dans le compartiment concentré ( $\text{mg} \cdot \text{kg}^{-1} \cdot \text{ml}^{-1}$ )

$v$ : volume du compartiment concentré (ml).

Des dosages de  $M$  ont été effectués au niveau de l'extrémité de la perfusion par spectrophotométrie U-V pour valider le modèle théorique décrit par l'équation 1 (Figure 2). L'erreur relative moyenne ( $C$  calculée -  $C$  mesurée) a été de  $0,01 \pm 0,04$ .

Ainsi, ce procédé d'administration offre l'avantage d'être fiable, de réalisation rapide, et peut créer une alternative à l'emploi du propofol en perfusion continue.

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## Vertigo after epidural morphine

To the Editor:

The report by Goundrey J.<sup>1</sup> nicely documents the appearance of disabling vertigo following epidural morphine. However, the author is misinformed about the lack of previous reports of incapacitating vertigo associated with epidural morphine. We recently reported a case<sup>2</sup> sharing many similarities with relation to sex, pregnancy, type of surgical procedure, drugs administered and clinical features (nausea and vomiting, pruritus and rotatory vertigo in particular). The associated unilateral loss of hearing and tinnitus lead us to the diagnosis of Meniere-like syndrome. In the case reported by Goundrey no mention was made of the latter symptoms. It would be interesting to know if evidence of a Meniere-like syndrome was also present as, in our experience, the symptoms were rapidly improved by continuous low-dose

administration of naloxone. In these two cases, since no other aetiological factors were found, vestibular dysfunction, although rare, may be added to the side-effects associated with epidural morphine. Moreover, vestibular dysfunction seems to be rapidly reversed by low-dose naloxone administration without affecting the quality of analgesia.

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#### REPLY

Linder, Borgeat and Biollaz are certainly correct that I missed their case report in *Anesthesiology*.<sup>1</sup> I believe the fact that my literature search also failed to reveal their report is due to the difference in presentation of our respective patients. While their patient demonstrated the classic triad of symptoms associated in Meniere's syndrome (deafness, tinnitus and vertigo), mine complained of vertigo alone.

It is interesting to speculate whether this is mere pedantry or that it represents a true difference in pathophysiology, assuming that both complications were indeed due to the injection of morphine into the epidural space. The aetiology of Meniere's Syndrome is by definition a labyrinthine disturbance, whereas vertigo may be due to labyrinthine problems or to central (cerebellar or brainstem) dysfunction. I have recently confirmed with my patient that vertigo was her only symptom.

I note with interest one similarity between our patients that Linder, Borgeat and Biollaz have not touched upon. Their patient experienced complications only with her second dose of epidural morphine, injected on the morning after surgery. My patient, although reacting to the only dose given, had also received epidural morphine without incident during her first Caesarean section some two years previously. Could this be an immunologically mediated response in a "sensitized" subject? Is the 10% incidence of "dizziness" noted for the first time by Fuller, McMorland, Douglas, Palmer and Constantine<sup>2</sup> reflective of the increasing number of women presenting for repeat Caesarean sections who have previously been exposed to epidural morphine?

Whatever the underlying mechanism or mechanisms, it seems clear that at least one new side-effect of epidural morphine has been revealed.

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## William Bayard 1814–1907

To the Editor:

Dr. William Bayard<sup>1</sup> was certainly a leader in the medical community in New Brunswick. He was also one of the first to make use of ether anaesthesia, but the claim that he used it in 1844, two years before Morton demonstrated its use in Boston, is not substantiated by contemporary documentation. When McAvenney in 1905<sup>2</sup> wrote about Bayard's use of ether, he did so sixty years after the event without citing his source: "The first time ether was administered in St. John for extracting teeth was in the office of the Vanbuskirks by Dr. William Bayard. ... This was in 1844, shortly after Dr. Horace Wells, the American dentist, discovered surgical anesthesia." He did not state that this was two years before ether was used in Boston, and Morton's name was not mentioned.

The only occasion on which Bayard and Van Buskirk cooperated in the use of ether, which I have found,<sup>3</sup> refers to a hospital operation which took place in March 1847, not in 1844: "Experience in establishing the beneficial effects of Ethereal Vapour during Surgical operations, and the use of it is receiving the highest professional sanction in Europe and the United States. In our own City, the experiments which have been already made, are confirmatory of the advantages of it ... this fact was fully illustrated during an operation recently performed by Dr. Wm. Bayard, in the Hospital of this City and County ... the patient inhaled the Vapour of Ether through a machine made by Mr. Van Buskirk, the dentist, who was present ... as the public are interested in the question of good or evil connected with the use of Ethereal Vapour in Surgical operations, no apology is requisite for making a Newspaper the medium of reports of effects for the benefit of all, who from disease or accident, may have occasion and inclination to resort to it."

My own research<sup>4</sup> confirms MacDougall's earlier opinion<sup>5</sup> that the first use of ether in New Brunswick occurred in January 1847.<sup>6–8</sup> No attempt has previously been made to establish priority for Van Buskirk or Bayard or Morton. Is it possible that McAvenney, writing sixty years after the event and without realizing the significance of the date, simply made an error when he stated that Bayard used ether in 1844?

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## Octreotide for Carcinoid Syndrome

To the Editor:

Drs. Watson, Badner and Ali reported the use of octreotide, a long-acting somatostatin analogue, in the management of a patient with an ovarian carcinoid tumour who presented for laparotomy and tumour resection.<sup>1</sup> We have recently had experience with octreotide in a patient with carcinoid syndrome undergoing anaesthesia and surgery and we can confirm its efficacy for maintaining perioperative stability.

A 43-year-old female presented to the physicians with a one-year history of palpitations, hot flushes, tiredness and episodes of wheezing. Extensive investigations had failed to reveal the cause of her symptoms. However, she had a marginally raised urinary HIAA and was treated empirically with octreotide 50 µg subcutaneously o.d. Her symptoms improved dramatically on this treatment and the dose of octreotide was subsequently increased to 75 µg o.d. Further investigations were ordered in an