SEPTICEMIE GRAVE ASSOCIEE A UNE ANESTHESIE AU PROPOFOL CONTAMINE (A PROPOS DE 2 CAS)

SEVERE SEPSIS ASSOCIATED WITH CONTAMINATED PROPOFOL ANESTHESIA (ABOUT 2 CASES)

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Abstract

Healthcare-related infections represent a major concern in medical practice. In this study we report two cases of unusual severe sepsis caused by propofol.Two women underwent a voluntary abortion in a private office under general anesthesia using only propofol without incident. The next day, both patients were taken to the emergency department for deterioration in their general condition.
The rapid evolution of septicemic status in these two young patients, who underwent a minor act under general anesthesia, on the same day and in the same facility, led us to the misuse of anesthetics.
Only the exposure to intra venous propofol, explains the severity of the sepsis in the two cases in the absence of other causative factors.
Septicemia associated to propofol use is a rare condition that can be avoided with the respect of good practice rules.

Key-words: Sepsis; Propofol ; Anesthesia

Résumé

Les infections liées aux soins de santé représentent une préoccupation majeure dans la pratique médicale.
Dans cette étude, nous rapportons deux cas inhabituels de septicémie grave causée par le propofol.Deux femmes ont subi une interruption volontaire deleur grossesse dans un cabinet privé sous anesthésie générale utilisant seulement le propofol sans incidents. Le lendemain, les deux patientes ont été amenées aux urgences pour une détérioration de leur état général.
L'évolution rapide de l'état septicémique chez ces deux patientes jeunes qui ont subi un acte mineur sous anesthésie générale, le même jour et dans le même établissement nous a orientés vers la mauvaise utilisation des anesthésiques
L'exposition au propofol intraveineux explique dans les deux cas, en l'absence d'autres causes, la sévérité de la septicémie.
La septicémie liée à l'utilisation du propofol est une affection rare qui peut être évitée par le respect des règles de bonne pratique.

Mots clés : Sepsis ; Propofol ; Anesthesia

ملخص

تشكل الأمراض المرتبطة بالرعاية الصحية مصدرقلق كبيرفي الممارسة الطبية.
في هذه الدراسة،أبلغناعن حالتين غيرعاديتين من تعفن الدم الشديد الناجم عن البروبوفول تعرضت امرأتان الى الإجهاض في عيادة خاصة تحت التخديرالعام باستخدام البروبوفول فقط دون حوادث.في اليوم التالي،تم نقل كلا المريضتين إلى قسم الطوارئ لتدهور حالتهما .أدى التطورالسريع لحالة تسمم الدم عند هاتين المريضتين الشابتين اللتين خضعتا لعملية بسيطة تحت التخديرالعام،في نفس اليوم وفي نفس المنشأة،أرشدنا إلى إساءة استخدام المادة المخدرة.في كلتا الحالتين وفي غياب أسباب أخرى،يفسرالتعرض للبروبوفول عن طريق الوريد شدة تعفن الدم . تسمم الدم المرتبط باستخدام البروبوفول هو حالة نادرة يمكن تجنبها باتباع قواعد الممارسة الجيدة.

الكلمات المفاتيح :السبتساميا ؛البروبوفول؛ التخدير

INTRODUCTION

Healthcare-related infections represent a major concern in medical practice. Despite the available knowledge and preventive measures, outbreaks of infections continue to occur.

In this study we report two cases of unusual severe sepsis. It occurred on healthy patients who undergone a minor operation in the same conditions: one operator ,on the same day, in the same extra hospital setting under general anesthesia using only propofol.

Case 1

A 42-year-old woman (weight=80kg; height=162 cm) without a medical history underwent elective surgery for a voluntary termination of pregnancy on September 14, 2021. The act took place at a private cabinet under general anesthesia using only propofol without problems. On the next day, the patient was brought to the emergency for deterioration of her general condition. The examination showed : altered state of consciousness, impregnable blood pressure, tachycardia at 140 bpm, polypnea at 28 breaths / min, cardiopulmonary auscultation showed crackling rales at both bases. Pelvic echography was without abnormalities. Thoraco-abdomino-pelvic scan revealed: signs of inhalation, absence of hemorrhagic lesion in intra or retro peritoneal. Biological tests showed : leukocyte at 18900elements/mm3, moderate anemia with hemoglobin at 9.5g/l, thrombocytopenia at 65,000 elements/mm3, low prothrombin rate at 18%;renal failure(Creat: 224µmol/l; urea :18mmol/l),increased markers of sepsis (CRP: 192mg/l, procalcitonin: 46g/l). Blood cultures were negative.

The patient was admitted to the intensive care unit for conditioning, intravascular expansion and catecholamines, oxygen therapy and antibiotics (Imipenem1g *3/ day, Gentamycin 8mg/ kg/day).She was progressively stabilized: catecholamines were stopped at the third day, the renal function became normal and the bleeding disorders disappeared. Her condition improved; she made a complete recovery.

Case 2

25-year-old women (weight=85kg; height=166 cm) without a medical history underwent elective surgery for a voluntary termination of pregnancy on September 14, 2021. The act took place at the same. Private cabinet under general anesthesia using only propofol. The next day, the patient was brought to the emergency for deterioration of her general condition. The examination showed: unconscious patient, Blood pressure= 60/30 mmHg, tachycardia at 130 bpm. Gynecological examination was normal. Biological tests showed: anemia at 9g/dl, thrombocytopenia at 43000elements /mm3, low prothrombin rate at 35%, hepatic cytolysis (ASAT 718 ;ALAT 315),renal failure (Creat 315µmol/l ,urea 14mmol/l)increased sepsis markers(CRP 180mg/l, procalcitonin: 100g/l).The blood gas, then realized, showed the following: pH: 7.09, partial pressure of oxygen (PO^2): 167 mmHg, partial pressure of carbon dioxide (PCO^2): 34.3 mmHg; lactate: 3 mmol/l., bicarbonate (HCO3-): 9.9 mmol/L. The chest X-ray was normal. No effusion was found in abdominal and pelvic echography. Thus, the hypothesis of hemorrhagic shock became doubtful.

The patient was admitted to intensive care unit. She was intubated and received intravascular expansion ,high doses of catecholamines and antibiotics (Imipenem 1g *3/day, Gentamycin 8mg/ kg/day). The evolution was marked by the deterioration of the hemodynamic state, increased catecholamine requirements, hepatic cytolysis, worsening renal failure (clearance at 13mL/min), rhabdomyolysis (CPK 1753 UI/l). The blood gases show severe acidosis: pH 6.94, partial pressure of oxygen (PO^2): 106 mmHg, partial pressure of carbon dioxide (PCO^2):31 mmHg, bicarbonate (HCO^{3-}): 6.9 mmol/L and the patient wasn't saved. She died on September 17, 2021

DISCUSSION

A rapidly progressive state of severe sepsis in young healthy women with no particular medical history who underwent minor act under general anesthesia, the same day in the same extra hospital establishment made us doubt about anesthetic misuse.

Only exposure to intra venous propofol, a lipid-based anesthetic agent explains the severity of the sepsis in the two cases in the absence of other causative factors. In fact, in the first observation, the pneumonia (inhalation) couldn’t explain the severity of the septic state.

The lipid emulsion of the propofol is a favorable medium for the growth of microorganisms.

Several studies looked at the risk of nosocomial infection by contamination of propofol.

In a meta-analysis, Zorrilla-Vaca et al [1] described 20 situations of nosocomial infections linked to the contamination of propofol between 1989 and 2014 affecting 144 patients resulting in 10 deaths. Contributing factors were the reuse of propofol syringes for the same patient and aseptic handling of propofol.

In a retrospective study from June 1995 to June 1996, Kuehnert et al [2] described cases of nosocomial infections associated with contamination of propofol in 5 patients receiving electro-convulsive therapy under general anesthesia.

Between June 1990 and February 1993, the Centers for Disease Control and Prevention carried out investigations in seven hospitals due to unusual epidemics of postoperative nosocomial infections. Bennet and al [3] described the risk factors associated with these infections in a case-control study. Only propofol exposure was associated with these complications in the seven hospitals.

These studies do not report clinical episodes of infection or colonization that can be attributed to propofol infusion when normal hygiene rules are respected.

CONCLUSION

Propofol is like any pharmacological substance: it can cause severe complications if misused. Septicemia associated to its use is a rare condition that can be avoided with the respect of good practice rules.

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