

## **Cardiotoxicity of General Anesthesia with Propofol and Sevoflurane in Patient Previously Exposed to Anthracycline**

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**Purpose :** Anthracyclines such as doxorubicin are effective chemotherapeutic agents used in the breast cancer. It can induce cardiotoxicity. The aim of our study was to assess the possible synergistic cardiotoxicity of anthracyclines and general anaesthesia with Propofol and Sevoflurane.

**Methodology :** We designed a prospective, consecutive, observational study over a three years period. ASA 1 patients with a histological verification of breast cancer, undergoing a tumorectomy or a mastectomy, and with a normal N-terminal pro-brain natriuretic peptide (NT-proBNP) level were enrolled. Propofol was the anaesthetic agent for induction and Sevoflurane was the agent for maintenance of anaesthesia. A first group was composed of patient who had a neo adjuvant chemotherapy with anthracyclines in the previous 6 months. A second group was composed of patient who never had anthracyclines. The primary endpoint was the concentration of NT-proBNP before induction (T0), at the end of the surgery (T1), six hours after the surgery (T2) and 24 hours after the surgery (T3). Informed consent of the patients was obtained. A favourable opinion was delivered by the Committee for the protection of persons.

**Results :** 43 patients were included : 20 in the first group and 23 in the second group. The anthracycline received in the exposed group was the Epirubicine with a total cumulative mean dose of 315 +/- 49 mg/m<sup>2</sup>. There was no significant difference between the two groups at T0 (32,2 +/- 18,4 pg/ml for the exposed group versus 38,9 +/- 32,1 pg/ml for the non exposed group ; p : 0,714), T1(34,6 +/- 22,9 pg/ml versus 42,2 +/- 33,6 pg/ml ; p : 0,492), T2 (41,7 +/- 30,8 pg/ml versus 43,5 +/- 35,8 ; p : 0,681) and T3 (75,9 +/- 61,1 pg/ml versus 107,6 +/- 79,1 pg/ml ; p : 0,183).

**Conclusion :** The NT-proBNP level increased in both groups during the peri operative period with no significant difference between the patients exposed to anthracyclines and the others. Our study did not show a synergistic cardiotoxicity of anthracycline and general anaesthesia with Propofol and Sevoflurane.

**References :** *Anesthesia & Analgesia* 2004 ; 98 : 941-7  
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