Fentanyl facilitate intraoperative sedation during expansion pulmonary vein isolation.

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**Introduction**: Fentanyl is often used during operation because of its strong sedative effect. Intraoperative sedation during expansion pulmonary vein isolation (PVI) is usually performed by using pentazosine and propofol. There is a possibility of more effective sedation using fentanyl instead of pentazosine. We aimed to clarify the effectiveness of sedation using fentanyl during PVI.

**Methods**: Two hundred and sixty one patients who received PVI at Sakakibara Heart Institute between November 2016 to April 2019 were recruited. Among them, 61 patients used pentazosine (group P) and 199 used fentanyl (group F) in addition to propofol. We compared the total propofol dose, its additional administration dose, the frequency of the additional dose and the time needed awakening after the end of sedation between group P and F.

**Result**: The total propofol dose was significantly more in group F than group P (group P: 19.18±5.62mg/kg vs group F: 21.98±5.50mg/kg, p < 0.001). The loading dose was also significantly more in group F than group P (group P: 1.91±0.47mg/kg vs group F: 3.35±0.85mg/kg, p < 0.001). The additional propofol dose (group P: 0.90±0.66mg/kg vs group F: 0.50±0.63mg/kg, p < 0.001) and its frequency (group P: 2.26±1.46 vs group F: 1.12±1.34, p<0.001) in the second half of operation were significantly less in group F than group P. The time needed awakening after the end of sedation did not change between group P and F (group P: 42±14 min vs group F: 42±10min, p=0.914).

**Conclusion**: Using fentanyl instead of pentazosine decreased the necessity of additional propofol during PVI. Fentanyl was supposed to contribute to more stable intraoperative sedation.