Combed using midazolam with sufentanil sedation administered by nurses for patients undergoing catheter ablation for atrial fibrillation

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**Introduction:** Catheter ablation (CA) is an established treatment option for atrial fibrillation (AF). It is required that patients remain in a stable position throughout the procedure to avoid the risk of cardiac perforation, unintended catheter movement, and three-dimensional (3D) map shift. Here, we tested the hypothesis that atrial fibrillation ablation can be performed combed using midazolam with sufentanil sedation administered by nurses under a cardiologist's supervision.

**Methods:** Data of 205 procedures undergoing CA for AF under combed using midazolam with sufentanil sedation were analysed. Sedation protocol is as bellowed. Patients were positioned fully recumbent on the catheter laboratory table. Induction of sedation was administered with a bolus of 2 mg midazolam (1mg if age > 75 years). Sufentanil was administered (a bolus of 0.15ug/kg of body weight) after transseptal puncture. The primary endpoint was respiratory depression resulting in sustained oxygen saturation of < 90% and/or hypotension.

**Result:** The average age of patients was 66.7 (54.8–72.6) years and 72% were male. CARTO was provided in all the cases. The average procedure time was 75 ± 12min. Prior to sedation, the median SBP was 128 (115–150) mmHg, and the mean oxygen saturation was 96.2±2.5%. Eight patients (3.9%) experienced insufficient oxygenation, but that could be corrected by waking up. All of the 8 patients were older than 75 years. There was no patient has hypotension.

**Conclusion:** Sedation using midazolam with sufentanil can be safely performed for AF ablation under the supervision of cardiologists. Close oxygen saturation monitoring is required, especially in elderly patients, which carrying a higher risk for respiratory depression.