Comparison of Bolus Dosing of Methohexital and Propofol in Elective Direct Current Cardioversion

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BACKGROUND: Methohexital and propofol can both be used as sedation for direct current cardioversion (DCCV). However, there are limited data comparing these medications in this setting. We hypothesized that patients receiving methohexital for elective DCCV would be sedated more quickly, recover from sedation faster, and experience less adverse effects.

METHODS AND RESULTS: This was a prospective, blinded randomized controlled trial conducted at a single academic medical center. Eligible participants were randomly assigned to receive either methohexital (0.5 mg/kg) or propofol (0.8 mg/kg) as a bolus for elective DCCV. The times from bolus of the medication to achieving a Ramsay Sedation Scale score of 5 to 6, eyes opening on command, and when the patient could state their age and name were obtained. The need for additional medication dosing, airway intervention, vital signs, and medication side effects were also recorded. Seventy patients who were randomized to receive methohexital (n=37) or propofol (n=33) were included for analysis. The average doses of methohexital and propofol were 0.51 mg/kg and 0.84 mg/kg, respectively. There were no significant differences between methohexital and propofol in the time from end of injection to loss of consciousness (1.4±1.8 versus 1.1±0.5 minutes; P=0.33) or the time to first shock (1.7±1.9 versus 1.4±0.5 minutes; P=0.31). Time intervals were significantly lower for methohexital compared with propofol in the time to eyes opening on command (5.1±2.5 versus 7.8±3.7 minutes; P=0.0005) as well as at the time to the ability to answer simple questions of age and name (6.0±2.6 versus 8.6±4.0 minutes; P=0.001). The methohexital group experienced less hypotension (8.1% versus 42.4%; P<0.001) and less hypoxemia (0.0% versus 15.2%; P=0.005), had lower need for jaw thrust/chin lift (16.2% versus 42.4%; P=0.015), and had less pain on injection compared with propofol using the visual analog scale (7.2±9.7 versus 22.4±28.1; P=0.003).

CONCLUSIONS: In this model of fixed bolus dosing, methohexital was associated with faster recovery, more stable hemodynamics, and less hypoxemia after elective DCCV compared with propofol. It can be considered as a preferred agent for sedation for DCCV.

REGISTRATION: URL: https://www.clinicaltrials.gov/ct; Unique identifier: NCT04187196.

Key Words: atrial fibrillation ■ electric countershock ■ methohexital ■ propofol ■ prospective studies

Direct current cardioversion (DCCV) has been in clinical use since the 1960s for the treatment of both atrial fibrillation (AF) and atrial flutter (AFL) to restore sinus rhythm.1 By applying a QRS-synchronized current of energy through electrodes/pads placed on the chest wall, atrial arrhythmias can be reset and sinus rhythm restored. DCCV is used in both a diagnostic and a therapeutic fashion in the management of AF and AFL. DCCV shocks are optimally delivered from electrodes in an anterior–posterior position using a biphasic waveform and delivering high-energy levels with a high acute success rate approaching 94% to 96%.3,4 Because of

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CLINICAL PERSPECTIVE

What Is New?
- This blinded randomized controlled trial is the first published trial that supports the use of a bolus dose of methohexital at 0.5 mg/kg as a safe and preferred method compared with a bolus dose of propofol for sedation in cardioversions.
- There was quicker recovery, improved pain at injection site, and significantly less occurrences of hypotension and hypoxia in the methohexital group.

What Are the Clinical Implications?
- The results of the study support the use of a fixed weight-based dose of methohexital for sedation during cardioversions.
- Independent use of fixed weight-based dosing of methohexital by cardiologists and electrophysiologists can be considered.

Nonstandard Abbreviations and Acronyms

| Acronym | Definition                  |
|---------|-----------------------------|
| AFL     | atrial flutter              |
| DBP     | diastolic blood pressure    |
| DCCV    | direct current cardioversion|
| RSS     | Ramsay Sedation Scale      |
| SBP     | systolic blood pressure     |

the amount of energy applied to the chest, DCCV is an uncomfortable procedure for patients who are awake. Consequently, short-acting, deep-sedation agents are used to minimize the discomfort and pain and produce an amnestic effect. Several different medication choices are available for sedation during this relatively brief procedure.

Prior studies of deep sedation with anesthesia commonly compared propofol to other agents such as midazolam or etomidate. A recent review article evaluated randomized trials of the aforementioned medications concluded that propofol was the best option for use in DCCV. The authors deemed that the hypotension and respiratory depression associated with propofol were acceptable when compared with the increased recovery time and risk of myoclonus associated with midazolam and etomidate, respectively.

At our institution, a majority of DCCV are performed in the electrophysiology laboratory. Sedation is delivered by either a certified registered nurse anesthetist under the supervision of an anesthesiologist or by an electrophysiology laboratory registered nurse under the direction of an electrophysiologist. The medication choices for sedation at our institution have historically been either propofol or methohexital. Each medication has specific properties and pharmacokinetics that affect the duration of action, hemodynamic effect, and respiratory depression. Propofol, an alkylphenol, has a rapid onset with a short duration of action. However, it can also cause hypotension through vasodilation, respiratory depression that could result in apnea, and pain on injection. Methohexital is a rapid-onset, short-acting barbiturate that can also cause hypotension and respiratory depression. Similar to propofol, pain on injection may occur.

Although these medications have been compared in other settings, such as during fracture and dislocation reduction in the emergency department, there are limited studies on the use of methohexital for sedation during cardioversion. The largest study was a cost-effectiveness cohort study of 1473 patients undergoing an elective cardioversion using methohexital dosing of 0.4 to 0.6 mg/kg. Although this was a cost-effectiveness study, the safety and cost savings led the authors to continue to use it for their cardioversions. To date there has been only 1, small, randomized controlled trial comparing propofol and methohexital for DCCV. There were only 10 patients per group in this 3-group randomized controlled trial (propofol, methohexital, midazolam), and the medications were given as a slow infusion rather than a bolus. Although it found no significant difference in the mean arterial pressure or time to awakening, there was a trend to quicker recovery in the patients who received methohexital.

The aim of this prospective, blinded, randomized study is to compare the speed of recovery and safety of bolus-dosed methohexital to the use of bolus-dosed propofol in elective cardioversions for atrial arrhythmias.

METHODS

Design
In the present study, we performed a randomized, blinded, prospective study to evaluate the timeliness and safety of DCCV when using a bolus dose of methohexital compared with the more often used propofol. The Consolidated Standards of Reporting Trials 2010 guidelines for reporting parallel-group randomized controlled trials were used to describe the methods. The Wake Forest School of Medicine institutional review board approved the protocol. The study was registered in the ClinicalTrials.gov Protocol Registration and Results System (Clinical Trials Registration Number: NCT04187196). All patients included in the study gave a written informed consent before enrollment. The data that support the findings of this study are available from the corresponding author upon reasonable request. The trial was terminated.
before the goal enrollment because of a nationwide shortage of methohexital, which is produced by a single manufacturer.

**Setting**

The study was performed at a large academic medical center—Atrium Health Wake Forest Baptist.

**Patient Selection Criteria**

Patients aged >18 years who presented to Atrium Health Wake Forest Baptist between April 29, 2020, and August 18, 2021, for an elective DCCV for treatment of AF/AFL were eligible for inclusion. Exclusion criteria included patients unable or unwilling to give consent, cases not supported by anesthesiology, patients undergoing transesophageal echocardiogram within 30 minutes of DCCV, and hemodynamically compromised patients (as defined by hypotension [systolic blood pressure, SBP, <90 mm Hg; diastolic blood pressure, DBP, <50 mm Hg], altered mental status, shock, ischemic chest discomfort, or decompensated heart failure).

**Study Protocol**

Eligible patients were randomized to either methohexital or propofol in a nonblocked fashion. The randomization was stratified by sex, American Society of Anesthesiologists physical status classification, and presence or absence of heart failure with reduced ejection fraction (<50%). Random assignment to the 2 groups was performed using REDCap (Research Electronic Data Capture), our secure data storage program. The Consolidated Standards of Reporting Trials flow diagram is shown in Figure 1. A certified registered nurse anesthetist, under the supervision of an attending anesthesiologist, administered the sedative. Given the unique appearance of propofol, the anesthesiology team could not be blinded because they were administering the medication. However, the electrophysiologists, electrophysiology laboratory nursing teams, data collectors, and patients were blinded by obscuring both the syringe and the patient’s arm underneath a blanket. Outcomes were assessed by the blinded electrophysiologist.

Methohexital was given as an initial dose of 0.5 mg/kg, followed by 10 mg every minute after 2 minutes until adequate sedation was achieved. Propofol was given at an initial dose of 0.8 mg/kg followed by 20 mg every minute after 2 minutes until adequate sedation was achieved. Baseline oxygen supplementation at 6 L/min by facemask and intravenous crystalloid solution administered via a peripheral intravenous line was available throughout the entire case. Self-adhesive pads were placed in the anteroposterior position on the chest. The patient was given the prespecified weight-based dose of sedative. Once adequate sedation was achieved, the patient received a 50 to 200 J shock using a QRS-synchronized biphasic defibrillator and self-adhesive pads (Zoll R-Series Plus and Pro-Padz, Zoll Medical Corporation, Chelmsford, MA). The initial shock intensity was determined by the electrophysiologist. The protocol allowed for a maximum of 3 shocks. If the initial attempt at DCCV was unsuccessful, manual pressure to the anterior pad was allowed on subsequent attempts.

A standard 12-lead ECG was obtained before sedation and after recovery. A 12-lead rhythm strip was obtained roughly 10 seconds before DCCV and 20 seconds after each DCCV. All tracings were acquired at a paper speed of 25 mm/second and a scale of 10 mm/mV (GE MAC55, GE Healthcare, Chicago, IL). During the procedure, the monitoring of heart rate, SBP, DBP, mean arterial pressure, respiratory rate, and SpO₂ were measured through a mounted patient monitor (Philips Intellivue MP5, Koninklijke Philips N.V, Amsterdam, the Netherlands). Blood pressure measurements were obtained using a noninvasive blood pressure cuff placed on the upper arm. The aforementioned parameters were measured just before induction, before the shock, and every minute after the shock for the first 10 minutes and then at 15, 20, and 30 minutes after the shock.

The following time intervals for the procedure were recorded in minutes: time from initiation of bolus injection to a Ramsay Sedation Scale (RSS) score of 5 to 6 [RSS score of 5–6], time to first shock, time to eyes opening on command [RSS score of 3], and time to the ability to answer simple questions of age and name [RSS score of 2].

**Outcome Measures**

The primary outcome measured was the time from initiation of sedation to full recovery (RSS score of 2), as evidenced by the ability to answer the questions “What is your name and what is your age?” Secondary time-based outcomes included the following: time from end of injection to loss of conscious [RSS score of 5–6], time to first shock, and time to eyes opening [RSS score of 3]. Secondary hemodynamic outcomes were vital status parameters (heart rate, SBP, DBP, mean arterial pressure, respiratory rate, SpO₂) at induction, before first shock, then 1, 3, 5, 7, 9, 10, 15, 20, and 30 minutes after first cardioversion.

Procedural parameters measured were the following: number of DCCV, maximum energy used for successful DCCV, success of DCCV, dosage of medication (mg/kg), and need for redosing. Safety end points were evidence of bradycardia (heart rate <60 beats per minute), hypotension (decrease in SBP ≥20%), hypoxemia...
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(SpO₂ nadir <85%), need for advanced airway maneuvers (jaw thrust/chin lift or bag mask ventilation), apnea (respiratory arrest ≥20 seconds), and severity of World Society of Intravenous Anaesthesia adverse sedation event.¹⁷

Patient experience end points measured after full recovery were recall of pain at injection site (visual analog scale)¹⁸ and recall of anything unpleasant about the procedure (visual analog scale). These were 100-mm lines that are anchored with “no pain” or “no distress” on one end and “worst imaginable pain” or “worst imaginable distress” on the other end.

Statistical Analysis

Study data were collected and managed using Research Electronic Data Capture electronic data capture tools hosted at Wake Forest School of Medicine.¹³,¹⁹ Two prior studies reported a time to recovery of 10.98±2.51 and 9 minutes using propofol and methohexital, respectively.²⁰,²¹ Assuming a similar difference in recovery time, a sample size of 50 patients randomly assigned in a 1:1 equal distribution pattern was calculated to detect a significant difference with 80% power, 5% α error, and a standard effect size of 0.797. JMP Pro, version 15.0.0 (SAS Institute Inc., Cary, NC, 1989 to 2021) was used for statistical analysis. Continuous variables were summarized with median (interquartile range [IQR]) and compared using the Wilcoxon rank-sum test. Categorical variables were summarized with counts (percentage) and compared using the Fisher exact test. MANOVA was used for repeated measures of vitals. Statistical significance was defined as a P or z value of <0.05 for parametric and nonparametric analyses, respectively. Statistical methods were performed on an intention-to-treat approach. Patients with incomplete time-to-recovery measurements were censored from the final analysis.
RESULTS

Between April 29, 2020, and August 18, 2021, a total of 819 patients underwent a cardioversion. Of these, 251 patients had a combined transesophageal echocardiography/DCCV. Another 495 patients underwent a DCCV alone but were not included in the study because of COVID-19 infection, lack of anesthesiology availability, declination of consent, or lack of study personnel availability. A total of 73 patients were randomly assigned to propofol or methohexital for sedation. After randomization, 2 patients were censored from the final analysis: one patient who received propofol had missing data from the day of DCCV, and the other patient was removed from the study because of anesthesiology concern for aspiration risk. One patient erroneously had sedation given outside of protocol when they were given 20-mg boluses of methohexital every minute until sedation was achieved. This patient remained in the intention-to-treat analysis. Clinical characteristics are presented in the Table. The median (IQR) age of the study population was 73 (65–77) years, with male predominance (59%). Arrhythmia breakdown was 31% AF with rapid ventricular response, 43% AF with controlled ventricular response, 13% AFL with 2:1 conduction, and 13% AFL with variable conduction. The 2 groups shared similar demographics, underlying illnesses, echocardiographic features, drug therapy, and alcohol consumption. The median (IQR) drug doses were 0.5 (0.5–0.51) mg/kg for the methohexital group and 0.8 (0.79–0.81) mg/kg for the propofol group. Only 3 patients in the methohexital group and 2 patients in the propofol group required an extra dose of sedation representing 7.9% of the methohexital group and 6.1% of the propofol group. The success rate of cardioversion was comparable (94.8% and 97.0%, respectively; P=1.00).

Primary End Point and Time-Based Measures

The time-based measures from sedation to recovery are presented in Figure 2. The median time (IQR) from beginning of bolus to recovery (time 4), as defined previously, was 5.5 (4.0–6.9) minutes (range, 3.1–28.3 minutes) for the methohexital group and 7.6 (6.5–9.8) minutes (range, 2.4–20.4 minutes) for the propofol group, which represents a 27.8% improvement in recovery time (z=0.004). There was also a significant difference in time to eyes opening (time 3) of 4.2 (3.3–6.4) minutes (range, 2.4–25.9 minutes) and 7.0 (5.7–9.3) minutes (range, 1.8–18.7 minutes) in each group, respectively (z=0.0003). There was no significant difference in time to sedation of 1.0 (0.8–1.3) minute (range, 0.6–22.3 minutes) for methohexital and 1.0 (0.8–1.3) minute (range, 0.5–3.1 minutes) for propofol (z=0.65) or time to first shock of 1.2 (1.0–1.7) minutes (range, 0.9–22.5 minutes) and 1.28 (1.0–1.6) minutes (range, 0.8–3.3 minutes), respectively (z=0.81).

Vital Status Measurements

Hemodynamic data comparisons were made at each time interval as well as an evaluation of the trend of the hemodynamic data. This trend is presented in Figure 3. At baseline, there was no significant difference in vital status measurements between the groups. Both methohexital and propofol caused a significant decrease in SBP, DBP, and mean arterial pressure over time when compared with baseline (z=0.0001). Using repeated measures of variance, there was a significantly greater decrease in SBP, DBP, and mean arterial pressure in propofol when compared with methohexital (P for interaction <0.0001, P=0.0159, and P<0.0001, respectively). The greatest median (IQR) difference in SBP was found 5 minutes after DCCV, with propofol having a 28.5 mm Hg lower SBP (142.5 [124.8–158] mm Hg methohexital versus 114 [106–126] mm Hg propofol; P<0.0001). There was no significant trend difference in respiratory rate over time (P=0.07) or between the groups (P=0.39). There was a statistically significant decline in SpO2 over time (P<0.0001), but there was no difference in trend between the groups (P=0.59).

Safety Outcomes

Although there was no need for vasopressor agents, the incidence of hypotension was greater in the propofol group (10.5% versus 42.4%; P=0.0027). Similarly, hypoxemia and the need for jaw thrust or chin lift was higher in the propofol group (0.0% versus 15.2% [P=0.0182] and 16.2% versus 42.4% [P=0.0176], respectively). There was no significant difference in the incidence of apnea (15.8% versus 30.3%; P=0.17). No patients required bag mask ventilation or invasive airway. World Society of Intravenous Anaesthesia minimal and minor adverse events occurred significantly more often in the propofol group (2.6% and 34.2% methohexital versus 6.1% and 63.6% propofol, Fisher exact P=0.0071). One patient in the propofol group experienced a sentinel event with hypoxia to SpO2 of 66% 1 minute after DCCV; there was full recovery to SpO2 of 100 within 2 minutes, requiring only a jaw thrust/chin lift for correction.

Patient Experience

Perceived pain and distress during the procedure were evaluated by visual analog scale. There was significantly more perceived pain at the injection site in the
propofol group with a median (IQR) score of 8 (1–46) versus 2 (0–11.5) in the methohexital group (z=0.0364). There was minimal distress and discomfort with the overall procedure in both groups with a score of 1 (0–12.5) versus 3 (0–19) on the visual analog scale, in the methohexital and propofol groups, respectively (z=0.2469).

**DISCUSSION**

**Main Findings**

This is the first, blinded, randomized controlled trial to evaluate bolus-dosed methohexital compared with propofol for sedation for DCCV. In this single-center randomized controlled trial, the use of methohexital was found to compare favorably to the widely accepted use of propofol for sedation in cardioversions. Although there was no difference in time to sedation or first cardioversion between the 2 studied medications, methohexital was found to have a significantly faster recovery time than propofol by 2.1 minutes, representing a 27.8% quicker recovery time. In addition to the quicker recovery, methohexital was found to have an improved safety profile when compared with propofol with less adverse events. Specifically, there was a lower incidence of hypotension, apnea, hypoxemia, and the need for a jaw thrust or chin lift. There was no need for more than brief interventions to treat the adverse events in either group.

**Bolus Dosing of Sedation During Cardioversions**

The selection of 0.5 mg/kg initial bolus dosing of methohexital was based on a prior case series by Tobin et al, which evaluated the cost and safety of the use of methohexital in cardioversions. This dosing
strategy was able to reach an RSS of 5 to 6 effectively. Of the 1473 procedures evaluated, only 0.5% experienced respiratory or bradyarrhythmia complications.

A majority of studies previously evaluating recovery time in bolus propofol dosing for cardioversions used a dose of 1 to 1.5 mg/kg. The only 2 studies that cited lower bolus dosing gave lower dosing for older age or unstable arrhythmias. Kaye et al used a lower median dose of 0.4 mg/kg in patients aged >80 years, and a median dose of 0.5 mg/kg in all patients who were deemed unstable. Guerra and colleagues also used a dosing of 0.8 mg/kg of propofol in very elderly patients, but did not specify what age met this criteria. To provide uniform dosing during the study, we used the lower dose of 0.8 mg/kg for all patients randomly assigned to the propofol group. This lower dose would have been expected minimize the difference in recovery time and adverse events. However, the higher risk of hypotension and hypoxia persisted in our study.

Previous Studies Investigating Methohexital Use in Cardioversions

Although methohexital had previously been in use for cardioversions, it has recently fallen out of favor at a majority of institutions. A Cochrane systematic review evaluating sedation for cardioversions eliminated methohexital from analysis, concluding that methohexital was no longer used. The included randomized controlled trials compared bolus dosing of propofol with midazolam, sodium thiopental, and etomidate. Gale et al performed a small (10 patients in each arm) randomized controlled trial in 1993 comparing titrated dosing of propofol, midazolam, and methohexital for cardioversions. They concluded that all 3 drugs were acceptable for sedation during cardioversion. Because of the slow continuous infusions used, the mean total dose of both propofol (1.69 mg/kg) and methohexital (1.07 mg/kg) were about twice as high as the prescribed bolus dosing used in this study. Unlike in the present trial, the authors found no significant difference in recovery time (11.2±4.4 and 9.4±2.8 minutes, respectively) between propofol and methohexital. This study prompted Wood and Ferguson, in an earlier review, to conclude that both medications were good choices for sedation during cardioversion. Other studies comparing the infusion of both medications in breast biopsies found no significant difference in recovery time. As in our study, the use of propofol was
associated with an increased risk of hypotension and a significant decrease in SBP and DBP when compared with methohexital in the induction of anesthesia.  

**Limitations**

This single-site trial is limited by the small trial numbers. As stated previously, our trial ended early because of the shortage of methohexital. However, because of a larger than expected effect size, we still found a significant difference in recovery time between groups. This trial excluded patients who were unstable as well as patients who were scheduled for a combined transesophageal echocardiography/DCCV. A transesophageal echocardiography/DCCV entails multiple doses or infusion of sedatives to reach adequate sedation, thus we cannot apply our findings to the use of methohexital in this combined procedure. Although we did not have a body mass index limit for our procedure, we used caution in patients who were larger, and some patients who were larger were not included in the study because of a concern with high doses of propofol use. This limits our ability to generalize to the morbidly obese population. There was no significant difference in the mean body mass index between groups; however, the highest body mass index was 64.3 kg/m² in the methohexital group and 55.8 kg/m² in the propofol group. Our study was blinded to the patients as well as to the data collectors, but not the anesthesiology staff. The blinding of the data collector allows for the presentation of the data without reporting bias.

**Clinical Significance**

Because of the pain and stimulation involved in cardioversions, deep sedation and at times brief general anesthesia is necessary. Multiple articles have suggested that propofol be the standard for sedation for cardioversions, with the exception of patients who are older and sicker. In this trial, we have shown that methohexital has a significantly quicker recovery time than propofol when given as bolus dosing. Its safety profile combined with the rapid recovery time supports its use in cardioversions. A great majority of sedation for cardioversions using propofol used anesthesiologists to manage sedation. Multiple international anesthesia societies have strongly recommended against the use of propofol by nonanesthesiologists. This recommendation is for longer procedures such as endoscopy. Our current study emphasizes the relatively quick sedation and recovery of both medications. In our current environment of critical staffing shortages, hospitals are struggling to meet the demand for health care services. During this time, we must look to increase efficiency while maintaining safety by 

**Figure 3.** Variations of HR (A), SBP (B), RR (C), DBP (D), oxygen saturation (E), MAP (F) over time during cardioversion. bpm indicates beats per minute; DBP, diastolic blood pressure; DCCV, direct current cardioversion; HR, heart rate; MAP, mean arterial pressure; rpm, respirations per minute; RR, respiratory rate; and SBP, systolic blood pressure.
collaboration across specialties. In prior years, the cost of methohexital was either less expensive than or comparable with propofol.\textsuperscript{10,29} The cost of methohexital has increased significantly. The current wholesale acquisition cost of a 500-mg vial of methohexital is $76.06. The cost of an equivalent dosing 10 mg/mL, 50-mL vial of propofol is $10.69; however, a 20-mL vial would likely provide a sufficient amount of propofol with this dosing regimen and has a cost of $4.28. The impact of improved recovery time is lessened by the cost difference between the 2 medications as a new vial must be opened for each procedure. However, if there is an increased proportion of cardioversions performed with sedation provided by properly trained cardiologists, the decreased need for anesthesiology support translates to a cost savings.\textsuperscript{15,26} This also provides more availability of anesthesiology staff for cases that require longer sedation.

Because of the shortcomings in the anesthesia department and the resultant unavailability of anesthesiology support, a majority of the cardioversions not included in our present study were performed with sedation given by our electrophysiologists. Each was trained in the delivery of deep sedation according to guidelines outlined by the American Society of Anesthesiology Task Force on Sedation and Analgesia by Non-Anesthesiologists.\textsuperscript{3} During these procedures, we provided methohexital sedation at the same bolus dosing used in the present study with minimal adverse events. With the findings of an enhanced safety profile (less hypotension, hypoxia, and apnea) and quicker recovery from sedation in our study, we further conclude that methohexital can independently be used safely by trained cardiologists and electrophysiologists. Still, it is important to perform a close pre-procedure evaluation, including history, physical exam, and focused laboratory testing, to identify patients at highest risk for complication. High-risk patients would be best served with sedation provided by anesthesiology.

CONCLUSIONS

Methohexital used in fixed-bolus dosing by body weight provides for more rapid recovery from cardioversion as well as improved adverse effect profiles when compared with bolus-dosed propofol. There is less hypotension, hypoxia, and apnea experienced when using methohexital for sedation. Methohexital in turn should be considered as a preferred choice in sedation for cardioversions. Furthermore, it could be used independently by properly trained cardiologists.

ARTICLE INFORMATION

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