pharmaceutical composition is to be administered to the patient, wherein the use is characterized by ECG parameters increase by no more than 25%, wherein the ECG parameters comprise QRS, PDur, PR, or QTcF, or any combination thereof, wherein the pharmaceutically acceptable salt of sulcardine is to be administered at a dose of 200 mg to 600 mg, and wherein the ECG parameters further comprise a decrease in JTpc by no more than 25 msec; and no change in TpTe, and the pharmaceutically acceptable salt is ethane-1,2-disulfonic acid, naphthalene-1,5-disulfonic acid, 1-hydroxy-2-naphthoic acid, naphthalene-2-sulfonic acid, hydrochloric acid, or hydrobromic acid.

[0007] In one example, presented herein is a pharmaceutical composition comprising sulcardine or a pharmaceutically acceptable salt thereof, wherein the composition produces ECG parameter changes in QRS, PDur, PR, or OTcF, or any combination thereof, of no more than about 25%. In some examples, the pharmaceutical composition is an inhibitor of Na_L , INa; and LCa; characterized by ECG parameter changes in:: (i) a reduction or no change in JTpc of NMT of

CLAIMS

What is claimed:

1. Use of a pharmaceutical composition comprising a pharmaceutically acceptable salt of sulcardine in the manufacture of a medicament for the treatment of atrial fibrillation (AF) or atrial flutter in a patient, wherein the pharmaceutical composition is to be administered to the patient, wherein the use is characterized by ECG parameters increase by no more than 25%, wherein the ECG parameters comprise QRS, PDur, PR, or QTcF, or any combination thereof, wherein the pharmaceutically acceptable salt of sulcardine is to be administered at a dose of 200 mg to 600 mg, and wherein the ECG parameters further comprise a decrease in JTpc by no more than 25 msec; and no change in TpTe, and the pharmaceutically acceptable salt is ethane-1,2-disulfonic acid, naphthalene-1,5-disulfonic acid, 1-hydroxy-2-naphthoic acid, naphthalene-2-sulfonic acid, hydrochloric acid, or hydrobromic acid.

2. The use of claim 1, wherein the ECG parameters further comprise an increases in heart rate (HR) of no more than 25%.

3. The use of claim 1 or claim 2, wherein the maximum ECG parameter change occurs prior to or at Tmax.

4. The use of any one of claims 1 to 3, wherein the pharmaceutical composition inhibits early after depolarization.

5. The use of any one of claims 1 to 4, wherein the pharmaceutical composition increases or decreases diastolic and/or systolic blood pressure by no more than 25%.

6. The use of any one of claims 1 to 5, wherein the pharmaceutical composition does not induce a 2^{nd} or 3^{rd} degree heart block.

7. The use of any one of claims 1 to 6, wherein the pharmaceutically acceptable salt of sulcardine is to be administered at a dose of 200 mg, 350 mg, 500 mg, or 600 mg.

8. The use of any one of claims 1 to 7, wherein the QT and/or QRS intervals increases by 5% to 20% after the administration of the composition.

9. The use of any one of claims 1 to 8, wherein a mean average plasma profile characterized by a Cmax after the administration of 200 mg of the compound, of at least 1,500 ng/mL at Tmax, and at most 25% of Cmax at 1.0 hours after administration.

10. The use of any one of claims 1 to 8, wherein the composition produces a mean average plasma profile characterized by a Cmax after the administration of 350 mg of the compound, of at least 3,000 ng/mL at Tmax, and at most 25% of Cmax at 1.0 hours after administration.

11. The use of any one of claims 1 to 8, wherein the composition produces a mean average plasma profile characterized by a Cmax after the administration of 500 mg of the compound, of at least 4,000 ng/mL at Tmax, and at most 25% of Cmax at 1.0 hours after administration.

12. The use of any one of claims 1 to 8, wherein the composition produces a mean plasma profile characterized by an average Cmax after the administration of 600 mg of the compound, of at least 5,500 ng/mL at Tmax, and at most 25% of Cmax at 1.0 hours after administration.

13. The use of any one of claims 1 to 12, wherein the plasma concentration decreases by at least 75% within 1 hour after administration.

14. The use of any one of claims 1 to 12, wherein the administration comprises intravenous injection, intramuscular injection, intraperitoneal injections, subcutaneous injection, or oral consumption.

15. The use of any one of claims 1 to 14, wherein the pharmaceutically acceptable salt of sulcardine is to be administered over a period less than 1 hour.

16. The use of claim 15, wherein, or a pharmaceutically acceptable salt thereof, is to be administered over a period of 30 minutes.

17. The use of claim 15, wherein the pharmaceutically acceptable salt of sulcardine is to be administered over a period of 15 minutes.

18. The use of any one of claims 1 to 17, wherein the pharmaceutically acceptable salt of sulcardine is to be administered at a rate that does not produce an arrhythmia.

19. The use of any one of claims 1 to 17, wherein the AF is acute AF, paroxysmal AF, recurring AF or atrial flutter.

20. The use of any one of claims 1 to 19, wherein the pharmaceutical composition inhibits late sodium channels, fast sodium channels, L-type calcium channels in the heart, or a combination thereof, in the patient.

21. The use of any one of claims 1 to 20, wherein a bimodal effect on QTc can occur including prolongation in QTc at lower drug exposure levels (doses) in association with INa cardiac ion channel inhibition followed by a potential plateauing or decrease in QTc interval at higher drug exposure levels (doses) associated with increasing inhibitory effect on Na_L and ICa cardiac ion channels.