Vernakalant Intravenous Infusion for Adults

Who can administer

Administration RESTRICTED - see Appendix 1

Important information

- Pre-infusion check list in packaging must be completed prior to administration

Drug interaction (potentially serious)	Interval	Recommendation
INTRAVENOUS antiarrythmic drugs (Class I and III) e.g. amiodarone, lidocaine, flecainide, sotalol	Within 4 hours before OR after vernakalant administration	Combined use contraindicated within this time-frame
	If given 4 to 24 hours before vernakalant	No data- not recommended to give vernakalant
ORAL antiarrythmic drugs (class I and III)	Use vernakalant with caution due to limited experience. Risk of atrial flutter may be increased in patients receiving Class I and III antiarrythmics (e.g. sotalol, flecainide, amiodarone)	
Resumption or initiation of oral maintenance treatment with antiarrythmic drugs	Can be restarted two hours after vernakalant	

Dose is based on body weight. There are two different dosages depending on initial infusion or second infusion

- For patients **weighing greater than 113kg**, **do no exceed** the maximum of 339mg for initial dose and 226mg for second dose

Indicated for rapid conversion of recent onset AF in adults who are

- non surgical with AF less than or equal to 7 days duration
- post cardiac surgery with AF less than or equal to 3 days duration

In their pharmacoeconomic evaluation of vernakalant, the NCPE recommends reimbursement for vernakalant for the treatment of haemodynamically stable, symptomatic patients with atrial fibrillation of **less than 48 hours** duration in the hospital setting (ref 1)

Available preparations

Vernakalant hydrochloride 500mg in 25ml vial (Brinavess) (=20mg/ml)

200mg vial may be considered for purchase at a later date if available

Reconstitution

Already in solution

Dilute further prior to administration

Infusion fluids

Sodium Chloride 0.9% or Glucose 5%

Prepare a **4mg per ml** infusion solution as follows:

Patient weight	Volume of Vernakalant injection solution	Volume of diluent	Final volume of diluted solution
100kg or less	25ml (500mg)	100ml	125ml
over 100kg	30ml (600mg)	120ml	150ml

Methods of intravenous administration

Intravenous infusion (administer using an electronically controlled infusion device)

- Initial infusion: Administer over 10 mins, wait 15 minutes after the end of the initial infusion, then **if still symptomatic give the second infusion:** administer over 10 mins

Dose in adults

- Dose is based on body weight
- Body weight can be rounded to nearest 5kg as per dosage chart below
- There are two different dosages depending on initial infusion or second infusion
- **For patients weighing greater than 113kg, do not exceed the maximum of 339mg for initial dose and 226mg for second dose**
- If conversion to sinus rythym occurs during either the initial or second infusion, **that** infusion should be completed. If haemodynamically stable atrial flutter is observed after the initial infusion, the second infusion of vernakalant may be administered, as patients may convert to sinus rythym

First infusion of Vernakalant is administered as a 3mg/kg dose over 10 minutes		Second infusion of Vernakalant is administered as a 2mg/kg dose over 10 minutes	
Patient weight	**Volume of 4mg/ml solution prepared as above**	**Patient weight**	**Volume of 4mg/ml solution prepared as above**
40kg	30ml	40kg	20ml
45kg	33.7ml	45kg	22.5ml
50kg	37.5ml	50kg	25ml
55kg	41.2ml	55kg	27.5ml
60kg	45ml	60kg	30ml
65kg	48.7ml	65kg	32.5ml
70kg	52.5ml	70kg	35ml
75kg	56.2ml	75kg	37.5ml
80kg	60ml	80kg	40ml
85kg	63.7ml	85kg	42.5ml
90kg	67.5ml	90kg	45ml
95kg	71.2ml	95kg	47.5ml
100kg	75ml	100kg	50ml
Important: preparation of solution differs for weights above 100kg			
105kg	78.7ml	105kg	52.5ml
110kg	82.5ml	110kg	55ml
113kg	84.7ml	113kg	56.5ml
For patients weighing greater than 113kg, do not exceed the maximum of 339mg for initial dose and 226mg for second dose			

Renal impairment: No dosage adjustment necessary, but see further information below

Hepatic impairment: No dosage adjustment necessary

Post cardiac surgery: No dosage adjustment necessary

Monitoring

Prior to infusion

- Ensure patients are adequately hydrated and haemodynamically optimised including anticoagulation if necessary.
- **Potassium levels** less than 3.5mmol/l should be corrected
- Assess for signs or symptoms of cardiac failure prior to administration of vernakalant (higher incidence of hypotensive adverse reaction and ventricular arrythmias)

During and after infusion:

- During the entire duration of the vernakalant infusion and for at least 15 minutes after the completion of the infusion, the patient should be frequently monitored for any signs or symptoms of a sudden decrease in blood pressure or heart rate.
- If adverse events occur, assess vital signs and continuously monitor ECG during the infusions and **for 2 hours after the start of the infusions,** until clinical and ECG parameters have stabilised.
- If signs of a sudden decrease in blood pressure or heart rate develop, with or without symptomatic hypotension or bradycardia, vernakalant infusion must be stopped immediately. Contact the cardiology doctors. If these events occur during the first infusion of vernakalant, the second dose should not be given.

Further information

- Resumption or initiation of **oral**-maintenance antirrhythmic medication can be considered **2 hours after vernakalant** administration
- Cumulative doses of greater than 5mg/kg should not be administered within 24 hours
- Cumulative doses above 565mg have not been evaluated
- **Contraindicated** in patients with acute coronary syndrome, including MI within the last 30 days
- **Contraindicated** in patients with severe aortic stenosis, systolic BP < 100mmHg and patients with heart failure class NYHA III and IV
- **Contraindicated** in patients with prolonged QT at baseline (uncorrected >440msec), or severe bradycardia, sinus node dysfunction or second degree and third degree heart block in the absence of a pacemaker
- Cardioversion may be considered for patients who do not respond to vernakalant. There is no clinical experience with direct current cardioversion under 2 hours post dose.

Storage

Store below 25^{0}C

References

SPC December 2021

1. "Economic evaluation of vernakalant for haemodynamically stable, symptomatic patients with atrial fibrillation of less than 48 hours duration". May 2011. National Centre for Pharmacoeconomics. Dublin. Ireland.

Therapeutic classification

Antiarrythmic