SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE MEDICINAL PRODUCT
Juneflecad 200 mg, prolonged-release capsule, hard

2 QUALITATIVE AND QUANTITATIVE COMPOSITION
Each capsule contains 200 mg of flecainide acetate.
For a full list of excipients, see section 6.1

3 PHARMACEUTICAL FORM
Prolonged-release capsule, hard
Flecainide 200 mg prolonged-release capsules are № 1 gelatine opaque capsules with grey body and pink cap containing white or almost white round micro-tablets.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications
Treatment of
- Treatment of
  1. AV nodal reciprocating tachycardia; arrhythmias associated with Wolff-Parkinson-White Syndrome and similar conditions with accessory pathways, when other treatment has been ineffective.
  2. Severe symptomatic and life-threatening paroxysmal ventricular arrhythmia which has failed to respond to other forms of therapy. Also where other treatments have not been tolerate.
  3 Paroxysmal atrial arrhythmias (atrial fibrillation, atrial flutter and atrial tachycardia) in patients with disabling symptoms after conversion provided that there is definite need for treatment on the basis of severity of clinical symptoms, when other treatment has been ineffective. Structural heart disease and/or impaired left ventricular function should be excluded because of the increased risk for pro-arrhythmic effects.

4.2 Posology and method of administration
Posology
Initiation of flecainide acetate therapy and dose changes should be made under medical supervision and monitoring of ECG and plasma level. Hospitalization could be necessary during such procedures for certain patients, especially for patients with life threatening ventricular arrhythmias. These decisions should be made under supervision of a specialist. In patients with an underlying organic cardiopathy and especially those with a history of myocardial infarction, flecainide treatment should only be started when other arrhythmic agents, other than class IC (especially amiodarone), are ineffective or not tolerated and when non-pharmacological treatment (surgery, ablation, implanted defibrillator) is not indicated. Strict medical monitoring of ECG and plasma levels during treatment is required.

**Adults and adolescents (13-17 years of age)**

**Supraventricular arrhythmias:** The recommended starting dosage is 100 mg per day. A dose increase could be considered after a period of 4 to 5 days. The optimal dose is 200 mg per day. If necessary, the dose may be increased to a maximum of 300 mg per day.

**Ventricular arrhythmias:** The recommended starting dosage is 200 mg per day. The maximum daily dose is 400 mg and this is normally reserved for patients of large build or where rapid control of the arrhythmia is required. After 3-5 days it is recommended that the dosage be progressively adjusted to the lowest level which maintains control of the arrhythmia. It may be possible to reduce dosage during long term treatment.

**Elderly patients:**
In elderly patients the maximum initial daily dosage should be 100 mg daily as the rate of flecainide elimination from plasma may be reduced in elderly people. This should be taken into consideration when making dose adjustments. The dose for elderly patients should not exceed 300 mg daily.

**Children:**
Flecainide acetate is not recommended for use in children below 12 years of age due to a lack of data on safety and efficacy.

**Plasma levels:**
Based on PVC suppression, it appears that plasma levels of 200-1000ng/ml may be needed to obtain the maximum therapeutic effect. Plasma levels above 700-1000ng/ml are associated with increased likelihood of adverse experiences.

**Impaired renal function:**
In patients with significant renal impairment (creatinine clearance of 35ml/min/1.73sq.m or less) the maximum initial dosage should be 100 mg daily. When used in such patients, frequent plasma level monitoring is strongly recommended. Depending on the effect and tolerability the dose may then be cautiously increased. After 6-7 days the dose may be adjusted, depending on the effect and the tolerability. Some patients with severe renal
failure can have a very slow clearance of flecainide and thus a prolonged half-life (60-70 hours).

**Impaired liver function:**
In patients with impaired liver function, the patient should be closely monitored and the dose should not exceed 100 mg daily.

Patients with a permanent pacemaker in situ should be treated with caution and the dose should not exceed 200mg daily.

In patients concurrently receiving cimetidine or amiodarone close monitoring is required. In some patients the dose may have to be reduced and should not exceed 200mg daily. Patients should be monitored during initial and maintenance therapy.

Plasma level monitoring and ECG control are recommended at regular intervals (ECG control once a month and long term ECG every 3 months) during therapy. During initiation therapy and when the dose is increased, an ECG should be performed every 2-4 days.

When flecainide is used in patients with dosage restrictions, frequent ECG control (additional to the regular flecainide plasma monitoring) should be made. Dose adjustment should be made at intervals of 6-8 days. In such patients an ECG should be performed in weeks 2 and 3 to control the individual dosage.

**Method of administration**
For oral use. In order to avoid the possibility of food affecting the absorption of the drug, flecainide should be taken on an empty stomach or one hour before food.

4.3 **Contraindications**
- Hypersensitivity to the active substance(s) or to any of the excipients listed in section 6.1.
- Flecainide is contraindicated in cardiac failure and in patients with a history of myocardial infarction who have either asymptomatic ventricular ectopics or asymptomatic non-sustained ventricular tachycardia.
- Patients with long standing atrial fibrillation in whom there has been no attempt to convert to sinus rhythm
- Patients with reduced or impaired ventricular function, cardiogenic shock, severe bradycardia (less than 50 bpm), severe hypotension;
- Use in combination with class I antiarrhythmics (sodium channel blockers)
- In patients with haemodynamically significant valvular heart disease.
- Unless pacing rescue is available, flecainide must not be given to patients with sinus node dysfunction, atrial conduction defects, second degree or greater atrio-ventricular block, bundle branch block or distal block.
- Patients with asymptomatic or mildly symptomatic ventricular arrhythmias must not be given flecainide.
- Known Brugada syndrome.

4.4 **Special warnings and precautions for use**

Treatment with oral flecainide should be under direct hospital or specialist supervision for patients with:
- AV nodal reciprocating tachycardia; arrhythmias associated with Wolff-Parkinson-White Syndrome and similar conditions with accessory pathways.
- Paroxysmal atrial fibrillation in patients with disabling symptoms.

Initiation of flecainide acetate therapy and dose changes should be made under medical supervision and monitoring of ECG and plasma level. Hospitalization could be necessary during such procedures for certain patients in particular patients with potential life-threatening ventricular arrhythmias.

Flecainide, like other antiarrhythmics, may cause proarrhythmic effects, i.e. it may cause the appearance of a more severe type of arrhythmia, increase the frequency of an existing arrhythmia or the severity of the symptoms (see section 4.8).

Flecainide should be avoided in patients with structural heart disease or abnormal left ventricular function (see section 4.8).

Electrolyte disturbances (e.g. hypo- and hyperkalaemia) should be corrected before using flecainide (see section 4.5 for some drugs causing electrolyte disturbances). Hypokalaemia or hyperkalaemia may influence the effects of class 1 antiarrhythmic agents. Hypokalaemia may occur in patients who use diuretics, corticosteroids or laxatives.

Severe bradycardia or pronounced hypotension should be corrected before using flecainide.

Since flecainide elimination from the plasma can be markedly slower in patients with significant hepatic impairment, flecainide should not be used in such patients unless the potential benefits outweigh the risks. Plasma level monitoring is recommended.

Flecainide should be used with caution in patients with impaired renal function (creatinine clearance ≤ 35ml/min/1.73sq m) and therapeutic drug monitoring is recommended.

The rate of flecainide elimination from plasma may be reduced in the elderly. This should be taken into consideration when making dose adjustments.

Flecainide is not recommended in children under 12 years of age, as there is insufficient evidence of its use in this age group.
Flecainide is known to increase endocardial pacing thresholds, i.e. to decrease endocardial pacing sensitivity. This effect is reversible and is more marked on the acute pacing threshold than on the chronic. Flecainide should thus be used with caution in all patients with permanent pacemakers or temporary pacing electrodes, and should not be administered to patients with existing poor thresholds or non-programmable pacemakers unless suitable pacing rescue is available.

Generally, a doubling of either pulse width or voltage is sufficient to regain capture, but it may be difficult to obtain ventricular thresholds less than 1 Volt at initial implantation in the presence of flecainide.

The minor negative inotropic effect of flecainide may assume importance in patients predisposed to cardiac failure. Difficulty has been experienced in defibrillating some patients. Most of the cases reported had pre-existing heart disease with cardiac enlargement, a history of myocardial infarction, arteriosclerotic heart disease and cardiac failure.

Flecainide should be used with caution in patients with acute onset of atrial fibrillation following cardiac surgery.

Flecainide has been shown to increase mortality risk of post-myocardial infarction patients with asymptomatic ventricular arrhythmia.

An acceleration of the ventricular rate of atrial fibrillation in case of therapy failure has been reported. Flecainide prolongs the QT interval and widens the QRS complex by 12-20%. The effect on the JT interval is insignificant.

A Brugada syndrome may be unmasked due to flecainide therapy. In the case of development of ECG changes during treatment with flecainide that may indicate Brugada syndrome, consideration to discontinue the treatment should be made.

For further warnings and precautions please refer to section 4.5.

4.5 Interaction with other medicinal products and other forms of interaction

Class I antiarrhythmics: Flecainide should not be administered concomitantly with other class I antiarrhythmics (e.g. quinidine).

Class II antiarrhythmics: The possibility of additive negative inotropic effects of Class II antiarrhythmics, i.e. beta-blockers and other cardiac depressants, with flecainide should be recognised.

Class III antiarrhythmics: If flecainide is given in the presence of amiodarone the usual flecainide dosage should be reduced by 50% and the patient
monitored closely for adverse effects. Plasma level monitoring is strongly recommended in these circumstances.

*Class IV antiarrhythmics*: The use of flecainide with calcium channel blockers, e.g. *verapamil*, should be considered with caution. Life-threatening or even lethal adverse events due to interactions causing increased plasma concentrations may occur (see section 4.9). Flecainide is metabolised by cytochrome P450 CYP2D6 to a large extent, and concurrent use of drugs inhibiting or inducing this iso-enzyme can increase or decrease plasma concentrations of flecainide, respectively.

An increase in plasma levels may also result from renal impairment due to a reduced clearance of flecainide (see section 4.4).

Hypokalaemia but also hyperkalaemia or other electrolyte disturbances should be corrected before administration of flecainide. Hypokalaemia may result from the concomitant use of diuretics, corticosteroids or laxatives.

*Antihistamines*: Increased risk of ventricular arrhythmias with *mizolastine*, *astemizole* and *terfenadine* (avoid concomitant use).

*Antivirals*: Plasma concentrations are increased by *ritonavir*, *lopinavir* and *indinavir* (increased risk of ventricular arrhythmias) (avoid concomitant use).

*Antidepressants*: *Paroxetine*, *fluoxetine* and other antidepressants increase plasma flecainide concentration; increased risk of arrhythmias with tricyclics.

*Antiepileptics*: Limited data in patients receiving known enzyme inducers (*phenytoin*, *phenobarbital*, *carbamazepine*) indicate only a 30% increase in the rate of flecainide elimination.

*Antipsychotics*: *Clozapine* - increased risk of arrhythmias.

*Antimalarials*: *Quinine* and *halofantrine* increase plasma concentrations of flecainide.

*Antifungals*: *Terbinafine* may increase plasma concentrations of flecainide resulting from its inhibition of CYP2D6 activity.

*Diuretics*: Class effect due to hypokalaemia giving rise to cardiotoxicity.

*H₂ antihistamines* (for the treatment of gastric ulcers): The H₂ antagonist *cimetidine* inhibits metabolism of flecainide. In healthy subjects receiving cimetidine (1 g daily) for 1 week, the AUC of flecainide increased by about 30% and the half-life increased by about 10%.

*Antismoking aids*: Co-administration of *bupropion* (metabolised by CYP2D6) with flecainide should be approached with caution and should be initiated at the lower end of the dose range of the concomitant medication. If *bupropion* is
added to the treatment regimen of a patient already receiving flecainide, the
need to decrease the dose of the original medication should be considered.

Cardiac glycosides: Flecainide can cause the plasma digoxin level to rise by
about 15%, which is unlikely to be of clinical significance for patients with
plasma levels in the therapeutic range.
It is recommended that the digoxin plasma level in digitalised patients should
be measured not less than 6 hours after any digoxin dose, before or after
administration of flecainide.

Anticoagulants: The treatment with flecainide is compatible with the use of
oral anticoagulants.

4.6 Fertility, Pregnancy and lactation

Pregnancy
There is no evidence as to drug safety in human pregnancy. In New Zealand
White rabbits, high doses of flecainide caused some foetal abnormalities, but
these effects were not seen in Dutch Belted rabbits or rats (see section 5.3).
The relevance of these findings to humans has not been established.
Data have shown that flecainide crosses the placenta to the foetus in patients
taking flecainide during pregnancy. Flecainide should only be used in
pregnancy if the benefit outweighs the risks. If flecainide is used during
pregnancy maternal flecainide plasma levels should be monitored throughout
pregnancy.

Breastfeeding
Flecainide is excreted in human milk. Plasma concentrations obtained in a
nursing infant are 5-10 times lower than therapeutic drug concentrations (see
section 5.2). Although the risk of adverse effects to the nursing infant is very
small, flecainide should only be used during lactation if the benefit outweighs
the risks.

4.7 Effects on ability to drive and use machines
Flecainide acetate has moderate influence on the ability to drive and use
machines. Driving ability, operation of machinery and work without a secure
fit may be affected by adverse reactions such as dizziness and visual
disturbances, if present.

4.8 Undesirable effects
• Like other anti-arrhythmics flecainide can have the effect of inducing
arrhythmia.
The existing arrhythmia may worsen or a new arrhythmia may occur. The risk of pro-arrhythmic effects is most likely in patients with a structural heart disease and/or significant left ventricular impairment.

The most commonly occurring cardiovascular adverse effects are second and third degree AV block, bradycardia, cardiac failure, chest pain, myocardial infarction, hypotension, sinus arrest, tachycardia (AT and VT) and palpitations.

The most common adverse effects are giddiness and visual disturbances that occur in about 15% of the patients receiving treatment. These adverse effects are usually transient and disappear upon continuing or reducing the dosage. The following list of adverse effects are based on experiences from clinical trials and reported after marketing.

Adverse events are listed below by system organ class and frequency. Frequencies are defined as:
- Very common (≥1/10)
- Common (≥1/100 and <1/10)
- Uncommon (≥1/1,000 and <1/100)
- Rare (≥1/10,000 and <1/1,000)
- Very rare (<1/10,000)
- Not known (cannot be estimated from the available data)

Blood and lymphatic system disorders
- Uncommon: red blood cell count decreased, white blood cell count decreased and platelet count decreased

Immune system disorders
- Very rare: antinuclear antibody increased with and without systemic inflammation

Psychiatric disorders
- Rare: hallucination, depression, confusional state, anxiety, amnesia, insomnia

Nervous system disorders
- Very common: giddiness, dizziness and lightheadedness which are usually transient
- Rare: paraesthesia, ataxia, hypoesthesia, hyperhidrosis, syncope, tremor, flushing, somnolence, headache, neuropathy peripheral, convulsion, dyskinesia

Eye disorders
- Very common: visual impairment, such as diplopia and vision blurred
- Very rare: corneal deposits

Ear and labyrinth disorders
- Rare: tinnitus, vertigo
• Cardiac disorders
  • Common: proarrhythmia (most likely in patients with structural heart disease)
  • Uncommon: patients with atrial flutter can develop a 1:1 AV conduction with increased heart rate.
  • Not known: Dose-related increases in PR and QRS intervals may occur (see section 4.4). Altered pacing threshold (see section 4.4). Atrioventricular block-second-degree and atrioventricular block third degree, cardiac arrest, bradycardia, cardiac failure / cardiac failure congestive, chest pain, hypotension, myocardial infarction, palpitations, sinus arrest, and tachycardia (AT or VT). Unmasking of a pre-existing Brugada syndrome.

• Respiratory, thoracic and mediastinal disorders
  • Common: dyspnoea
  • Rare: pneumonitis
  • Not known: pulmonary fibrosis, interstitial lung disease

• Gastrointestinal disorders
  • Uncommon: nausea, vomiting, constipation, abdominal pain, decreased appetite, diarrhoea, dyspepsia, flatulence

• Hepatobiliary disorders
  • Rare: hepatic enzymes increased with and without jaundice
  • Not known: hepatic dysfunction

• Skin and subcutaneous tissue disorders
  • Uncommon: dermatitis allergic, including rash, alopecia
  • Rare: serious urticaria
  • Very rare: photosensitivity reaction

• General disorders and administration site conditions
  • Common: asthenia, fatigue, pyrexia, oedema, discomfort

4.9 Overdose
Overdosage with flecainide is a potentially life-threatening medical emergency. Increased drug susceptibility and plasma levels exceeding therapeutic levels may also result from drug interaction (see section 4.5). No specific antidote is known. There is no known way to rapidly remove flecainide from the system. Neither dialysis nor haemoperfusion is effective. Treatment should be supportive and may include removal of unabsorbed drug from the GI tract. Further measures may include inotropic agents or cardiac stimulants such as dopamine, dobutamine or isoproterenol as well as mechanical ventilation and circulatory assistance (e.g. balloon pumping). Temporarily inserting a transvenous pacemaker in the event of conduction block should be considered. Assuming a plasma half-life of approximately 20 h, these supportive treatments may need to be continued for an extended
period of time. Forced diuresis with acidification of the urine theoretically promotes drug excretion.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties
Pharmacotherapeutic group: Antiarrhythmic, class IC, Flecainide
ATC Code: C01 BC 04

Flecainide acetate is a Class IC antiarrhythmic agent used for the treatment of severe symptomatic life-threatening ventricular arrhythmias and supraventricular arrhythmias.

Electrophysiologically, flecainide is a local anaesthetic-type (Class IC) of antiarrhythmic compound. It is an amide type of local anaesthetic, being structurally related to procainamide and encainide in so far as these agents are also benzamide derivatives.

The characterisation of flecainide as a Class IC compound is based on a triad of features: marked depression of the fast sodium channel in the heart; slow onset and offset kinetics of inhibition of the sodium channel (reflecting slow attachment to and dissociation from sodium channels); and the differential effect of the drug on the action potential duration in ventricular muscle versus Purkinje fibres, having no effect in the former and markedly shortening it in the latter. This composite of properties leads to a marked depression in conduction velocity in fibres dependant on the fast-channel fibres for depolarisation but with a modest increase in the effective refractory period when tested in isolated cardiac tissues. These electrophysiological properties of flecainide acetate may lead to prolongation of the PR-interval and QRS duration on the ECG. At very high concentrations flecainide exerts a weak depressant effect on the slow channel in the myocardium. This is accompanied by a negative inotropic effect.

5.2 Pharmacokinetic properties
Absorption
Flecainide is almost completely absorbed after oral administration and does not undergo extensive first-pass metabolism. The bioavailability from flecainide acetate tablets has been reported to be about 90%.

The therapeutic plasma concentration range is generally accepted as 200 to 1000ng per ml. Given intravenously the mean time to achieve peak serum concentration was 0.67 hours and the mean bioavailability was 98%, compared with 1 hour and 78% for an oral solution and 4 hours and 81% for a tablet.

Distribution
Flecainide is about 40% bound to plasma proteins. Flecainide passes the placenta and is excreted in breast milk.

**Biotransformation**
Flecainide is extensively metabolised (subject to genetic polymorphism), the 2 major metabolites being m-O-dealkylated flecainide and m-O-dealkylated lactam of flecainide, both of which may have some activity. Its metabolism appears to involve the cytochrome P450 isoenzyme CYP2D6, which shows genetic polymorphism.

**Elimination**
Flecainide is excreted mainly in the urine, approximately 30% as unchanged drug and the remainder as metabolites. About 5% is excreted in the faeces. Excretion of flecainide is decreased in renal failure, liver diseases, heart failure, and in alkaline urine. Haemodialysis removes only about 1% of unchanged flecainide.

The elimination half-life of flecainide is about 20 hours.

5.3 **Preclinical safety data**
The only preclinical data of relevance to the prescriber which are additional to that already included in other sections of the SPC are the following effects found on reproduction. In one breed of rabbits flecainide caused teratogenicity and embryotoxicity. There were insufficient data to establish a safety margin for this effect. However, these effects were not seen in another breed of rabbits, rats and mice.

6 **PHARMACEUTICAL PARTICULARS**

6.1 **List of excipients**
For all the capsules:
povidone (K25),
cellulose microcrystalline (PH 101),
crospovidone (Type A),
silica colloidal anhydrous,
magnesium stearate,
methacrylic acid-methyl methacrylate copolymer (1:2),
macrogol 400,
talc,
gelatin,
titanium dioxide,
black iron oxide,
red iron oxide
6.2 Incompatibilities
Not applicable.

6.3 Shelf life
3 years

6.4 Special precautions for storage
Store at a temperature not exceeding 30°C.

6.5 Nature and contents of container
PVC/PVDC-Aluminium blisters with 28, 30, 60 and 100 capsules per carton.
Not all the pack sizes may be marketed.

6.6 Special precautions for disposal
No special requirements.

7 MARKETING AUTHORISATION HOLDER
DB Ashbourne Limited
The Rectory, Braybrooke Road
Arthingworth, Market Harborough
LE16 8JT, United Kingdom

8 MARKETING AUTHORISATION NUMBER(S)
PL 42623/0036

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION
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