SmPC

Country :	Lebanon
Date of approval:	22.06.2009
Procedure:	National

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

EPHEDRINE AGUETTANT 30 mg/ml, solution for injection

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Ephedrine hydrochloride ..... 30 mg
Water for injections ..... qs 1 ml
pH = 5.5 to 7.0
For the excipients, see section 6.1

3. PHARMACEUTICAL FORM

Solution for injection.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

- Treatment of hypotension during general anesthesia and locoregional anesthesia performed for a surgical or obstetrical procedure, whether it is spinal or epidural.
- Preventive treatment of hypotension during spinal anesthesia for a surgical or obstetrical procedure.

4.2 Dosage and method of administration

Ephedrine must be used solely by or under the supervision of the anesthesiologist.
For injection use. Intravenous infusion or IV bolus. The route of administration varies depending on the status of the patient, his/her weight and additional therapies.

Adult

The dose is from 3 to 6 mg, repeated as needed every 5 to 10 min, and the dose for 24 hours must be less than 150 mg.
A lack of efficacy after 30 mg should lead to reconsideration of the choice of the therapeutic agent.

Children

The route of administration is intravenous.
The dose is from 0.1 to 0.2 mg/kg every 4 to 6 hours.

4.3 Contraindications

This medicinal product should never be used in the case of hypersensitivity to ephedrine.
In combination with other indirect sympathomimetic agents such as phenylpropanolamine, phenylephrine, pseudoephedrine and methylphenidate.

This medicinal product is GENERALLY NOT RECOMMENDED in the case of combination with halogenated volatile anesthetic agents, imipraminic antidepressants, noradrenergic-serotoninergic antidepressants, guanethidine and related products.

4.4. Special warnings and precautions for use

Special warnings

Caution is recommended in the case of:

- Diabetes
- Hypertension
- Prostatic hypertrophy

- Uncontrolled hyperthyroidism
- Coronary insufficiency and chronic cardiac diseases
- Angle-closure glaucoma

Precautions for use
Ephedrine must be used with caution in patients who have a history of cardiac events.
Athletes: warning, this medicinal product contains an active substance that may cause a positive reaction in anti-doping tests.
Verify the clarity of the solution and the absence of visible particles before INFUSION.

4.5 Interactions with other medicinal products and other forms of interaction

Combinations that are contraindicated
+ Indirect sympathomimetic agents (phenylpropanolamine, pseudoephedrine, phenylephrine, methylphenidate)
Risk of vasoconstriction and/or of acute episodes of hypertension.

Combinations that are not recommended
+ Halogenated volatile anesthetic agents
Serious ventricular arrhythmias (increased cardiac excitability).

+ Imipraminic antidepressants, noradrenergic-serotoninergic antidepressants (minalcipran, venlafaxine)
Paroxysmal hypertension with possibility of arrhythmias (inhibition of adrenaline or noradrenaline entry in sympathetic fibers).

+ Guanethidine and related products
Substantial increase in blood pressure (hyperreactivity linked to the reduction in sympathetic tone and/or to the inhibition of adrenaline or noradrenaline entry in sympathetic fibers).
If the combination cannot be avoided, use with caution lower doses of sympathomimetic agents.

Combinations requiring special precautions for use
+ Nonselective MAO inhibitors
Increase in hypertensive action of adrenaline and noradrenaline, most often moderate.
Use only under strict medical supervision.

+ Selective MAO-A inhibitors (moclobemide, toloxatone)
By extrapolation from nonselective MAO inhibitors.
Risk of increase in the hypertensive action.
Use only under strict medical supervision.

4.6 Pregnancy and breastfeeding

Pregnancy
Animal studies have shown evidence of a teratogenic effect.
In clinical practice, the results of epidemiological studies conducted on limited sample populations of females appear to exclude malformation specific to ephedrine.
In the event of abuse or of chronic use of vasoconstrictor amines, isolated cases of hypertension in the mother have been reported.
However, there is currently not enough data to confirm the reality of ephedrine fetotoxicity when it is administered during pregnancy.
As a result, the use of ephedrine should not be considered during pregnancy unless necessary.

Breastfeeding
There is no data on the excretion of ephedrine in human breast milk. However, considering the methods of administration of this medicinal product, breastfeeding is possible.

4.7 Effects on the ability to drive and use machines
Not applicable.

4.8 Undesirable effects

- Risk of palpitations, hypertension, primary hemostasis modifications, nervousness, tremor, anxiety, insomnia, confusion, irritability, depression, acute urinary retention, and hypersensitivity.
- Risk of episodes of angle-closure glaucoma.

4.9 Overdose
In the event of overdose, the occurrence of nausea, vomiting, fever, paranoid psychosis, ventricular and supraventricular arrhythmias, respiratory depression, convulsions and coma is observed.
The lethal dose in humans is approximately 2 g corresponding to blood concentrations of approximately 3.5 to 20 mg/I.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties
CARDIAC STIMULANTS EXCLUDING CARDIAC GLYCOSIDES
(C01C: cardiovascular system)

Ephedrine is a sympathomimetic amine acting directly on the alpha and beta receptors and indirectly by increasing the release of noradrenaline by the sympathetic nerve endings. As with any sympathomimetic agent, ephedrine stimulates the central nervous system, the cardiovascular system, the respiratory system, and the sphincters of the digestive and urinary systems. Ephedrine is also a monoamine oxidase (MAO) inhibitor.

5.2 Pharmacokinetic properties
Excretion depends on urine pH:
- From 73 to 99% (mean: 88%) in acidic urine,
- From 22 to 35% (mean: 27%) in alkaline urine.

After oral or parenteral administration, 77% of EPHEDRINE is excreted in unchanged form in the urine.
The half life depends on urine pH. When the urine is acidified at pH = 5, the half life is 3 hours; when the urine is rendered alkaline at pH = 6.3, the half life is approximately 6 hours.

5.3 Preclinical safety data
Not applicable.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients
Water for injections

6.2 Incompatibilities
Check for a possible change of color and/or a possible formation of precipitate, insoluble complex or crystals.

6.3 Shelf life
Three years.

6.4 Special storage conditions
No special storage conditions.

6.5 Nature and content of the container
1 ml in double tip ampoules or ampoule bottles of type I glass; box of 10, 50 or 100

6.6 Special precautions for disposal and other handling
No special requirements.