SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

Lioton® 1000 IU/g gel

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

1 g of gel contains 1000 IU heparin sodium.

Excipients with known effect:
1 g gel contains 233 mg ethanol.
Methyl-4-hydroxybenzoate (0.12 g in 100 g of product) and Propyl-4-hydroxybenzoate (0.03 g in 100 g of product) as conservatives.
Neroli fragrance and lavandin oil as fragrances containing citral, citronellol, coumarin, d-limonene, farnesol, geraniol and linalool.

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Gel
Colourless, almost transparent gel with aromatic odour.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Lioton Gel is indicated in adults as supportive treatment in acute swelling conditions, after blunt injuries such as contusions or sport injuries as well as in superficial venous affections provided that it is not possible to treat them with compressions.

4.2 Posology and method of administration

Posology

Adults
Two to three times daily 10 cm of gel are applied to the affected area and is massaged gently until the gel disappears.

In the case of acute swelling conditions after blunt injuries treatment duration up to 10 days, in the case of superficial venous affections of about 1 to 2 weeks is recommended.

Paediatric population
Lioton Gel must not be used in children and adolescents up to 18 years of age.

4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1

4.4 Special warnings and precautions for use

Usage of Lioton gel in haemorrhagic oedema has to be monitored closely.
Lioton gel should not be applied on open wounds and/or weeping eczemas.
Areas of eyes, nose and mouth have to be excluded from treatment.

Ethanol may cause burning sensation on damaged skin.

This medicine contains methyl-4-hydroxybenzoate and propyl-4-hydroxybenzoate as conservatives. They may cause allergic reactions (possibly delayed).

This medicine contains fragrances with citral, citronellol, coumarin, d-limonene, farnesol, geraniol and linalool. Citral, citronellol, coumarin, d-limonene, farnesol, geraniol and linalool may cause allergic reactions.

Paediatric population
No studies have been performed. Therefore, the use in paediatric population is not recommended.

4.5 Interaction with other medicinal products and other forms of interaction

When used on large areas or concomitantly with anticoagulant products (e.g. anticoagulants, acetyl salicylic acid) the bleeding tendency may be increased.

4.6 Fertility, pregnancy and lactation

Heparin dose not pass the placenta and is not excreted in human milk. Up to now there are no reports that the topic use of heparin during pregnancy causes malformations. No reports are available concerning an increased risk of miscarriages and stillbirths after systemic use. Complications due to treatment or disease in pregnant women cannot be excluded.

4.7 Effects on ability to drive and use machines

Lioton gel has no or negligible influence on the ability to drive and use machines.

4.8 Undesirable effects

In single cases mild reddening of the skin and itching caused by allergic or pseudoallergic reactions may occur. In such cases treatment should be discontinued. In one patient with the underlying disease of polycythaemia vera, a maculopapulous, hemorrhagic imbibing exanthema, which histologically showed leukocytolytic vasculitis, developed after topical administration of a heparin gel.

Reporting of suspected adverse reactions
Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the national reporting system.

4.9 Overdose

No case of overdose has been reported so far. In case of overdose, the effect of heparin can be neutralised with protamine sulphate.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: vasoprotectors, heparin, ATC Code: C05AB03

Due to its strong anionic charge heparin forms a complex with cationic proteins. This applies particularly to antithrombin III (AT III), an alpha-2-globuline, whose inhibitor reaction rate is increased by a multiple. Thus, heparin has a catalyst function by inhibiting the serine proteases according to the affinity of AT III to the individual enzymes of the coagulation cascade. Thereby, not only thrombin (IIa), but also the activated factors XIIa, Xia, IXa, Xa, and kallikrein are inactivated. This inactivation is dose dependent.

Further, heparin promotes lipolysis by activation of the clearing factor and catalysing the release of lipoprotein lipases from endothelial cells by which macromolecular chylomicrones are solubilised in plasma.

Heparin is involved in allergic and anaphylactic reactions. In mast cells, a salt like binding exists between histamine, heparin and a cofactor, from which heparin is released in the case of degranulation of mast cells by histamine liberation.
Furthermore, as a macroanion heparin inhibits or activates several ferment systems, such as hyaluronidase, histaminase, and ribonuclease.

5.2 Pharmacokinetic properties

Penetration of heparin through the intact skin is dose dependent. After topical application to the skin no systemically-therapeutically effective concentrations are reached.

5.3 Preclinical safety data

Toxicity of heparin is extremely low and considerably depends on the purity. In high concentrations haematomas may be increased.
No data are available on mutagenicity, cancerongenicity, and teratogenicity of heparin. Up to now embryotoxic risks are not known.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Purified water, ethanol 96%, Carbomer, trolamine, neroli fragrance (containing linalool, d-limonene, geraniol, citral, citronellol and farnesol), lavandin oil (containing linalool, d-limonene, geraniol and coumarin), methyl-4-hydroxybenzoate (E218) and propyl-4-hydroxybenzoate (E216) as conservatives.

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

24 weeks after first opening.
3 years in the intact packaging.

6.4 Special precautions for storage

Store below 30°C

6.5 Nature and contents of container

Aluminium tube with 15 g, 30 g and 50 g of gel.

6.6 Special precautions for disposal

No special requirements.
Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

7. MARKETING AUTHORISATION HOLDER

A. Menarini Industrie Farmaceutiche Riunite S.r.l.
Via Sette Santi 3, 50131 Florence, Italy

8. MARKETING AUTHORISATION NUMBER

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

10. DATE OF REVISION OF THE TEXT

LEGAL STATUS

Available only on prescription and only in pharmacies.