KioMedine vs one

Non-animal chitosan derivative (60 mg/3 ml) for intraarticular injection

INSTRUCTIONS FOR USE (EN)

Description

KioMedine™One is a synovial fluid viscosupplementation device indicated for the symptomatic treatment of osteoarthritis of the knee following a single intraarticular injection. KioMedine™One contains a sterile, non-pyrogenic, viscous solution composed of non-animal, linear (i.e. non-crosslinked) chitosan derivative buffered in an isomeric condition. The viscous solution decreases joint pain and improves the symptoms of osteoarthritis by providing lubrication and a free radical scavenging capacity to synovial joints affected by pathological changes. The 3 ml volume of KioMedine™One is suitable for injection into the knee. KioMedine™One is a bioabsorbable implant that must be injected by an authorized physician experienced in intraarticular injections.

Mode of Action

Osteoarthritis is a degenerative process leading to increased friction in the joint, which in turn causes pain and other symptoms. Oxidative degradation of endogenous lubricating polymers, such as hyaluronans, by free oxygen radicals also accounts for the loss of synovial fluid viscosity and symptoms of osteoarthritis. KioMedine™One is a synovial fluid viscosupplementation substance intended for intraarticular injection. In KioMedine™One, the main viscous component is a linear (i.e. non-crosslinked) chemical derivative of non-animal chitosan. This polymer is an exclusive highly purified naturally-derived glucosamine polysaccharide obtained from the edible white mushroom *Agaricus bisporus* and modified using proprietary chemistry. It has well-defined chemical features and is soluble in physiological conditions. The viscous component of KioMedine™One provides lubrication for reducing friction in the joint and has an intrinsic free radical scavenging capacity which can contribute to reducing the impact of oxidative degradation on lubricating polymers. Following intraarticular injection, the components of KioMedine™One are degraded in the body and are nontoxic for the joint tissues or the body.

Composition

Each package unit of KioMedine™One contains one pre-filled syringe with 3 ml sterile contents packed in a blister, product information and traceability labels. Each 1 ml contains 20 mg chitosan derivative, 35 mg sorbitol, and phosphate-buffered water for injection qs (pH 7.2 ± 0.2, 270-330 mOsmol per kg). The pre-filled syringe is for single use only.

Indication

KioMedine™One is indicated for the symptomatic treatment of osteoarthritis of the knee.

Performance and duration of effect

- One treatment cycle corresponds to one single 3 mL intraarticular injection of KioMedine™One into the knee.
- Clinical data: A pre-a randomized controlled trial in patients with osteoarthritis of the knee have shown that a single intraarticular injection of KioMedine™One provided significant improvement in joint pain, stiffness and functionality for 6 months.
- The treatment may be repeated according to the physician's recommendation and the patient's symptoms. The time period before repeating the treatment may depend on the severity of symptoms. In clinical investigation, the safety profile of a repeated injection of KioMedine™One into the knee was not altered after an interval of 3 months.

Contraindications

For intraarticular use only. Do not inject KioMedine™One in patients who have

- a known allergy or hypersensitivity to any of the product components,
- infections or skin disease at or around the injection site,
- severe inflammation, synovitis or inflammatory arthritis of the knee joint,
- a history of autoimmune and crystal diseases,
- evidence of lymphatic or venous stasis or serious blood disorders.

Precautions

- KioMedine™One should not be injected in case of any suspected joint effusion prior to the injection.
- The safety and performance of KioMedine™One have not been established in pregnant or lactating women or in children.
- The safety and performance of KioMedine™One have not been established in conditions other than osteoarthritis of the knee.
- Store KioMedine™One in its original packaging between +2 and +25°C. Do not freeze. If stored cold, KioMedine™One must be kept at room temperature for around 15 minutes before use. Do not use KioMedine™One beyond the expiry date indicated on the package.
- STERILE CONTENTS. The contents of the syringe are sterile and are to be used in one single patient only. Do not use if the package is damaged. The contents must be used immediately after the package is opened. Discard any unused KioMedine™One in an appropriate container. Do not re-use as this may result in product contamination and infection. Do not re-sterilize as this may damage the product.
- The injection carries a risk of infection. Strict adherence to aseptic conditions is required to avoid joint infection. Use of an appropriate disinfectant is required for skin preparation before injecting the contents. Do not use quaternary disinfectants for skin preparation as KioMedine™One may precipitate in their presence.
- High injection pressure may indicate incorrect placement of the needle in the joint.
- There is a risk of piercing/sharp injury while handling syringe needles.
- To date no data is available on potential interactions of KioMedine™One injected concomitantly with other intraarticular treatments.

Adverse events

Reported adverse events related to the treatment:

- No serious reaction has been reported in clinical investigation.
- Potential adverse events may occur after intraarticular injections. Injection of KioMedine™One can cause temporary joint pain, joint effusion, joint swelling, joint stiffness, joint warmth, injection site pain or synovitis of the treated joint. These transient local reactions mostly of mild to moderate intensity are common post-injection complications of intraarticular injections in the target population.
- These local reactions respond well to rest, cold application, oral painkillers, non-steroidal anti-inflammatory drugs (NSAIDs) and/or arthrocentesis, and may not affect the clinical benefit of the treatment.
- Rare cases of acute synovial inflammation characterized by painful effusion of the knee, and possibly low-grade fever, have been reported following an intraarticular injection of KioMedine™One.
- No intraarticular infection has been reported in clinical investigation.

Other potential adverse events related to an intraarticular injection:

- Other adverse events reported in association with intraarticular injections include: injection site reaction, discharge, bruising, joint lock, joint crepitation, gait disturbance, decreased range of motion, arthrospathy, pseudoseptic arthritis, anaphylactic arthritis, aggravated osteoarthritis, infrapatellar fat pad inflammation, bursitis, patellofemoral pain syndrome, flushing, rash, itching, hives, muscle cramp, muscle spasm, pain in extremity, back pain, peripheral edema, dizziness, chills, nausea, headache, hypotension, hypertension, or malaise.
- Although it has not been observed in clinical study, infection after intraarticular injection of KioMedine™One may occur.
- Although it has not been observed in preclinical and clinical studies, hypersensitivity to KioMedine™One may occur.

Adverse events must be reported according to national and European guidelines.

Information for patients

Before injecting KioMedine™One, please inform your patient in simple words about its composition, performance, contraindications and adverse events.

- KioMedine™One is derived from polysaccharides of edible mushrooms and should not be injected in patients with related allergies.
- As a precautionary measure, the patient should avoid any intense physical or excessive weight-bearing activities for 48 hours after the injection of KioMedine™One. The patient should be advised to progressively use the treated knee and perform regular physical exercise.
- Transient local reactions, such as joint pain, effusion, swelling or stiffness, are to be expected following the injection of KioMedine™One. These symptoms are common post-injection complications of intraarticular injections in the target population and can be managed with rest, cold application and/or pressure bandage and may not affect the clinical benefit of the treatment. If post-injection symptoms last for more than a week or worsen significantly after the injection, the patient must contact his or her physician.
- When transient local reactions occur, the patient should be advised to take oral painkillers (paracetamol) or NSAID without delay.

Dosage and administration

- Synovial fluid to be remove before each KioMedine™One injection.
- The administration of KioMedine™One must be performed by an authorized physician experienced in intraarticular injection of the knee joint.
- The injection site should be carefully disinfected with a suitable antiseptic solution before injection.
- The intraarticular injection technique must ensure the accurate delivery of KioMedine™One into the joint cavity. Accurate placement of the needle in the joint must be ensured, if necessary, using ultrasonographic guidance. Guided injections should only be performed by physicians with appropriate experience in this technique.
- Use a luer needle of appropriate size, i.e. 20G to 23G, and suitable length for injecting KioMedine™One. Carefully remove the tip cap of the syringe and connect the needle aseptically. The needle must be firmly attached to the syringe.
- Inject the total contents of the syringe into the knee joint.

CE 0344

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Ref: Instructions For Use KioMedine™One (UDI-DI No. 05400423514004), version 6.0, 02/06/2022.	
Symbol on the packaging	
CE 0344	CE-marked according to MDD 93/42/EEC by the notified body identified by the number 0344.
UDI-DI	Unique Device Identification No. 05400423514004.
	Manufacturer.
MD	Medical Device.
LOT	Lot number.
	Expiry date given as the year and month.
STERILE R SYRINGE	The contents of the syringe have been sterilized by moist heat.
	Temperature limit to which the device can be exposed.
	The device is for single use only.
	The device must not be used if the package is damaged.
	The user must consult cautionary information and warnings.