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Best Sleep

Melatonin

1mg / 1ml Syrup



Information on the use of this please read carefully!

Composition:

Each 1 ml of syrup contains 1 mg Melatonin.

excipients:

Sorbitol solution, purified water, propylene glycol, strawberry flavor, hydrochloric acid.

Mechanism of action:

The pharmacological mechanism of action in melatonin is believed to be based on its interaction with MT₁-, MT₂- and MT₃ receptors, as these receptors (particularly MT₁ and MT₂) are involved in the regulation of sleep and circadian rhythms in general.

Pharmacokinetic properties:

- Absorption: Orally administered melatonin is almost completely absorbed. Oral bio-availability is ~ 15%, owing to first-pass metabolism of ~ 85%. Plasma T_{max} is ~ 50 minutes. A 3 mg dose of immediate-release melatonin raises plasma melatonin C_{max} to ~ 3400 pg/mL, which is ~ 60-times the nocturnal (endogenous) plasma melatonin C_{max}, though both endogenous- and exogenous C_{max} show considerable inter-individual variation. It is recommended that food is not consumed approximately 2 h before and 2 h after intake of melatonin.
- Distribution: The protein binding of melatonin is approximately 50 – 60%. Melatonin primarily binds to albumin, though also binds alpha-1-acid glycoprotein; binding to other plasma proteins is limited. Melatonin rapidly distributes from the plasma into and out of most tissues and organ, and readily crosses the brain-blood barrier. Melatonin readily crosses the placenta. The level in umbilical blood of full-term babies closely correlates with, and is only slightly lower (~ 15 – 35%) than, that of their mother following ingestion of a 3 mg dose.
- Biotransformation: Melatonin is mainly metabolised by the liver. Experimental data suggest that the cytochrome P450 enzymes CYP1A1 and CYP1A2 are primarily responsible for melatonin metabolism, with CYP2C19 of minor importance. Melatonin is primarily metabolised to 6-hydroxymelatonin (constituting ~ 80 – 90% of melatonin metabolites recovered in the urine). N-acetylsertorin appears to be the primary minor metabolite (constituting ~ 10% of melatonin metabolites recovered in the urine). Melatonin metabolism is very rapid, with plasma 6-hydroxymelatonin level rising within minutes of exogenous melatonin entering the systemic circulation. 6-hydroxymelatonin undergoes sulphate conjugation (~ 70%) and glucuronide conjugation (~ 30%) prior to excretion.
- Elimination: Plasma elimination half-life (T_{1/2}) is ~ 45 minutes (normal range ~ 30 – 60 minutes) in healthy adults. Melatonin metabolites are mainly eliminated by the urine, ~ 90% as sulphate and glucuronide conjugates of 6-hydroxymelatonin. Less than ~ 1% of a melatonin dose is excreted unchanged in urine.

INDICATIONS:

Melatonin 1 mg/ 1ml syrup is indicated for.

- Short-term treatment of jet-lag in adults.

- Sleep onset insomnia in children and adolescents aged 6-17 years with attention- deficit hyperactivity disorder (ADHD) where sleep hygiene measures have been inadequate

Posology and method of administration:

- Posology:

- For the short-term treatment of jet-lag in adults:

The standard dose is 3 mg daily for a maximum of 5 days. The dose may be increased to 6 mg if the standard dose does not adequately alleviate symptoms. The dose that adequately alleviates symptoms should be taken for the shortest period.

The first dose should be taken on arrival at destination at the habitual bed-time.

Due to the potential for incorrectly timed intake of melatonin to have no effect, or an adverse effect, on re-synchronisation following jet-lag, Melatonin 1 mg/ 1ml syrup should not be taken before 20:00 hr or after 04:00 hr at destination.

As alcohol can impair sleep and potentially worsen certain symptoms of jet-lag (e.g. headache, morning fatigue, concentration) it is recommended that alcohol is not consumed when taking Melatonin 1 mg/ 1ml syrup.

Melatonin 1 mg/ 1ml syrup may be taken for a maximum of 16 treatment periods per year.

- Sleep onset insomnia in children and adolescents aged 6-17 years with ADHD:

Treatment should be initiated by physicians experienced in ADHD and/or paediatric sleep medicine.

Recommended starting dose is 1-2 mg (1.0-2.0 ml) 30-60 minutes before bedtime.

The dose of melatonin can be increased by 1 mg (1.0 ml) every week until effect up to a maximum 5 mg (5 ml) per day, independent of age. The lowest effective dose that controls symptoms should be given.

There is limited data available for up to 3 years of treatment. After at least 3 months of treatment, the physician should evaluate the treatment effect and consider discontinuing the treatment if no clinically relevant treatment effect is seen. The patient should be monitored at regular intervals (at least every 6 months) to check that Melatonin 1 mg/ 1ml syrup is still the most appropriate treatment. During ongoing treatment, especially if the treatment effect is uncertain, discontinuation attempts should be done regularly at least once per year. If insomnia has occurred during treatment with ADHD medication, dose adjustment or change of the treatment should be considered.

- Elderly:

As the pharmacokinetics of melatonin (immediate release) is comparable in young adults and elderly persons in general, no specific dosage recommendations for elderly persons are provided.

- Renal impairment:

There is only limited experience regarding the use of Melatonin 1 mg/ 1ml syrup in patients with renal impairment. Caution should be exercised if melatonin is used by patients with renal impairment. Melatonin 1 mg/ 1ml syrup is not recommended for patients with severe renal impairment.

- Hepatic impairment:

There is no experience regarding the use of Melatonin 1 mg/ 1ml syrup in patients with hepatic impairment. Limited data indicate that plasma clearance of melatonin is significantly reduced in patients with liver cirrhosis. Melatonin 1 mg/ 1ml syrup is not recommended in patients with moderate or severe hepatic impairment.

- Paediatric population (under 6 years of age):

The safety and efficacy of Melatonin 1 mg/ 1ml syrup in children aged 0-6 years have not been established.

Method of administration:

Melatonin 1 mg/ 1ml syrup is for oral use only.

Once titrated to an effective dose of Melatonin syrup, patients may remain on their treatment and care should be exercised when changing between different formulations.

Food can enhance the increase in plasma melatonin concentration. Intake of melatonin with carbohydrate-rich meals may impair blood glucose control for several hours. It is recommended that food is not consumed 2 h before and 2 h after intake of Melatonin 1 mg/ 1ml syrup.

Contraindications:

Hypersensitivity to the active substance or to any of the excipients.

Warnings and precautions:

- Auto-immune diseases:

Occasional case reports have described exacerbation of an autoimmune disease in patients taking melatonin. There are no data regarding use of Melatonin 1 mg/ 1ml syrup in patients with autoimmune diseases. Melatonin 1 mg/ 1ml syrup is not recommended in patients with autoimmune diseases.

- Epilepsy:

Melatonin has been reported to both increase and decrease seizure frequency in patients

experiencing seizures (e.g. epileptic patients). Caution should be exercised when prescribing to patients with epilepsy and/or with multiple neurological defects and/or with concomitant medications that could increase seizure frequency.

- Drowsiness:

Melatonin may cause drowsiness. Melatonin 1 mg/ 1ml syrup should be used with caution if the effects of drowsiness are likely to be associated with a risk to patient safety.

- Food interaction:

Limited data suggest that melatonin taken in close proximity to ingestion of carbohydrate-rich meals may impair blood glucose control for several hours. Melatonin 1 mg/ 1ml syrup should be taken at least 2 hours before and at least 2 hours after a meal; ideally at least 3 hours after meal by persons with significantly impaired glucose tolerance or diabetes.

- Renal and hepatic impairment:

Only limited data are available on the safety and efficiency of melatonin in patients with renal impairment or hepatic impairment. Melatonin 1 mg/ 1ml syrup is not recommended for use in patients suffering from severe renal impairment or moderate or severe hepatic impairment.

- Switching between formulations:

Caution may be taken when switching between melatonin products as the mean C_{max} on single dose administration for the suspension may be higher than that observed with tablet formulations.

- Paediatric population (under 6 years of age):

Melatonin 1 mg/ 1ml syrup is not recommended for use in children younger than 6 years of age.

Melatonin 1 mg/ 1ml syrup contains sorbitol and propylene glycol.

This medicine contains 140 mg sorbitol and 150.50 mg propylene glycol in each ml. This medicinal product contains sorbitol. Patients with hereditary fructose intolerance (HFI) should not take/be given this medicinal product. The additive effect of concomitantly administered products containing sorbitol (or fructose) and dietary intake of sorbitol (or fructose) should be taken into account. The content of sorbitol in medicinal products for oral use may affect the bioavailability of other medicinal products for oral use administered concomitantly.

Drug interactions:

Interaction studies have only been performed in adults.

- Caution is indicated in patients taking 5- or 8-methoxypsoralen, since this agent increases melatonin levels by inhibiting its metabolism.

- Caution is indicated in patients taking cimetidine, since this agent increases plasma melatonin levels by inhibiting its metabolism by CYP2D6.

- Caution should be exercised in patients receiving estrogen therapy (e.g. in the form of contraceptives or hormone replacement therapy), since estrogens increase melatonin level by inhibiting its metabolism, primarily via inhibition of CYP1A2.

- CYP1A2 inhibitors (such as quinolones) may increase systemic melatonin levels.

- CYP1A2 inducers (such as carbamazepine and rifampicin) may reduce plasma concentrations of melatonin.

- Cigarette smoking may decrease melatonin levels due to induction of CYP1A2.

- Pharmacodynamic interactions:

- Melatonin may enhance the sedative effect of benzodiazepines (e.g. midazolam, temazepam) and non-benzodiazepine hypnotics (e.g. zaleplon, zolpidem, zopiclone).

- Melatonin may affect the anticoagulation activity of warfarin.

- Pregnancy: There are no or limited amount of data for the use of melatonin in pregnant women. Exogenous melatonin readily crosses the human placenta.

- Melatonin syrup is not recommended during pregnancy or in women of childbearing potential not using contraception.

- Breast-feeding: There is insufficient data on the excretion of melatonin / metabolites in human milk. Endogenous melatonin is secreted in human milk.

- Melatonin syrup should not be used during breast-feeding.

- Fertility: High doses of melatonin and use for longer periods than indicated may compromise fertility in humans.

Melatonin syrup is not recommended in women and men planning pregnancy.

Effects on ability to drive and use machines:

Melatonin has a moderate influence on the ability to drive and use machines. Melatonin may cause drowsiness and may decrease alertness for several hours, therefore use of Melatonin 1mg/ml syrup is not recommended prior to driving and using machines.

Undesirable effects:

The most frequently report adverse effects are Drowsiness, headache, nausea, and dizziness / disorientation.

Overdose:

Drowsiness, headache, dizziness, and nausea are the most commonly reported signs and symptoms of overdose with oral melatonin.

Ingestion of daily doses of up to 300 mg of melatonin did not cause clinically significant adverse reactions.

Flashes, abdominal cramps, diarrhoea, headache, and scotoma lucidum have been reported after ingestion of extremely high melatonin doses (3000 – 6600 mg) for several weeks.

General supportive measures should be employed. Gastric lavage and administration of activated charcoal can be considered.

Clearance of the active substance is expected within 12 hours of ingestion.

Package:

Carton box contains an amber glass bottle contains 100 ml with cap.

Storage conditions:

Store below 25°C, in the original package protect from light, after open, use within 2 months

Keep this and all products out of children reach!

THIS IS A MEDICAMENT

- A medicament is a product but unlike any other products.
- A medicament is a product which affects your health, and its consumption contrary to instructions is dangerous for you.
- Follow strictly the physician's prescription, the method of use and the instructions of the pharmacist who sold the medicament. The physician and the pharmacist are experts in medicine, its benefits and risks.
- Do not by yourself interrupt the period of treatment prescribed for you.
- Do not repeat the same prescription without consulting your physician.

KEEP THE MEDICAMENTS OUT OF REACH OF CHILDREN

Council of Arab Health Ministers & Union of Arab Pharmacists

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