PATIENT INFORMATION LEAFLET

SERTOSPAN

TRADE NAME
Sertospan

INTERNATIONAL NONPROPRIETARY NAME
Betamethasone

PHARMACEUTICAL FORM
Suspension for injections.
Description: slightly viscous liquid containing white particles easily suspended and no foreign substances.

COMPOSITION
1 ampoule of suspension contains
Active ingredients: betamethasone dipropionate 6.43 mg (equivalent to 5 mg betamethasone), betamethasone sodium phosphate 2.63 mg (equivalent to 2 mg betamethasone).
Excipients: disodium edetate, disodium phosphate anhydrous, sodium chloride, polysorbate 80, hydrochloric acid, benzyl alcohol, methyl parahydroxybenzoate, propyl parahydroxybenzoate, carmelllose sodium, macrogol, water for injections.

ATC CODE   H02AB01

PHARMACOTHERAPEUTIC GROUP
Systemic corticosteroids. Glucocorticosteroids.

PHARMACOLOGICAL PROPERTIES

PHARMACODYNAMICS
Sertospan is a glucocorticosteroid (GCS) having the high glucocorticosteroid and insignificant mineralocorticoid activity. The drug has anti-inflammatory, antiallergic and immunosuppressive action, as well as it regulates the carbohydrate homeostasis and hydro-electrolytic balance.

PHARMACOKINETICS
Betamethasone sodium phosphate is almost immediately absorbed from the site of injection that provides a rapid onset of the therapeutic action. It is almost completely eliminated during one day after the injection.
Betamethasone dipropionate is slowly absorbed from depot, gradually metabolized that conditions the long action of the drug and it is eliminated during more than 10 days.
The plasma protein binding of betamethasone is 62.5%.
It is metabolized in the liver with the formation of inactive metabolites for the most part. It is eliminated predominantly by kidneys.

THERAPEUTIC INDICATIONS
The treatment of conditions and diseases where the therapy with GCS allows reaching the adequate clinical effect (it is necessary to take into the account that in some diseases the therapy with GCS is an additional one and it doesn’t replace the standard therapy):
- the musculoskeletal system and soft tissues diseases, including rheumatoid arthritis, osteoarthrosis, bursitis, ankylosing spondylitis, epididymitis, radiculitis, coccygodynia, ischialgia, lumbago, wryneck, ganglion cyst, exostosis, fasciitis, diseases of feet;
- allergic disease, including the bronchial asthma, autumnal catarrh (pollinosis), allergic bronchitis, seasonal or year-round rhinitis, drug allergy, serum sickness, reactions to insect stings;
- dermatological diseases, including atopic dermatitis, nummular eczema, neurodermatitis, contact dermatitis, apparent photodermatitis, urticaria, lichen ruber planus, insulin lipodystrophy, circumscribed alopecia, discoid lupus erythematosus, psoriasis, keloid cicatrices, pemphigus vulgaris, herpetic dermatitis, cystous acne;
- systemic connective tissue diseases, including systemic lupus erythematosus, scleroderma, dermatomyositis, nodular periarteritis;
- hemoblastosis (palliative treatment of leukosis and lymphoma in adults, acute leukemia in children);
- primary and secondary insufficiency of suprarenal cortex (in case of obligate simultaneous administration of mineral corticosteroids);
- other disease and pathological conditions requiring the therapy with systemic GCS (adrenogenital syndrome, ulcerative colitis, regional ileitis, malabsorption syndrome, eye mucous lesion in case of necessity to instill the drug into the conjunctival sac, pathological changes of blood in case of necessity of GCS administration, nephritis, nephrotic syndrome).

**DOSAGE AND ADMINISTRATION**

**Sertospan** is administered for intramuscular, intra-articular, periarticular, intrabursal, intracutaneous, intratissual and intralesional injection. The drug is not indicated for intravenous and subcutaneous injection.

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**It is not recommended the injection in the infected surfaces and in the intervertebral space.**

The dosage regimen and the mode of injection are established individually depending on the indications, severity and patient’s reaction.

In case of systemic administration the initial dose of **Sertospan** in most cases is 1-2 ml. The injection is repeated as the need arises depending on the patient’s condition. Intramuscular injection should be made deeply into the muscle choosing herewith the large muscles avoiding the hitting in other tissues (to avoid the tissue atrophy).

The drug is injected intramuscularly:

- in **critical conditions** requiring the emergent therapy the initial dose is 2 ml;
- in **different dermatological diseases** generally it is enough the injection of 1 ml;
- in **respiratory diseases** the beginning of the drug action starts in some hours after the intramuscular injection of suspension. In *bronchial asthma, autumnal catarrh, allergic bronchitis and allergic rhinitis* a significant improving of the state is reached after the injection of 1-2 ml of the drug.
- in **acute and chronic bursitis** the initial dose for intramuscular injection is 1-2 ml of the suspension. Some repeated injections are applied when needed.

If the satisfactory clinical response doesn’t occur in certain period of time, **Sertospan** should be canceled and another therapy should be prescribed.

In case of local injection the simultaneous administration of local anesthetic drug is necessary only in rare cases. If it is necessary, it is applied 1% or 2% solution of procaine hydrochloride or lidocaine without methylparaben, propylparaben, phenol or other similar agents. Herewith the mixing is performed in the syringe: firstly take into syringe the required dose of **Sertospan** suspension from the vial, then take the required amount of local anesthetic into the same syringe and shake during short period of time.

In **acute bursitis (subdeltoid, subscapular, cubital and prepatellar)** the injection of 1-2 ml of suspension in synovial sac alleviates pain and restores the joint mobility during some hours. After the arresting of the aggravation in chronic bursitis the lower doses of the drug are applied. In **acute tendosynovitis, tendinitis and peritendinitis** one injection of the drug improves the condition of a patient; in **chronic diseases** the injection is repeated depending on the patient’s reaction. It is necessary to avoid the drug injection directly into the tendon.

The intra-articular injection of **Sertospan** in dose of 0.5-2 ml alleviates pain, restriction of joint movement in *rheumatoid arthritis and osteoarthritis* during 2-4 hours after the injection. The duration of the therapeutic action varies significantly and can be 4 and more weeks.
The recommended doses of the drug in case of injection into large joints are from 1 to 2 ml; into middle joints – 0.5-1 ml; into small joints – 0.25-0.5 ml.

In some dermatological diseases it is effective the intracutaneous injection of Sertospan in the lesion focus, the dose is 0.2 ml/cm². The focus is uniformly needled using a tuberculin syringe and a needle with the diameter of about 0.9 mm. The total amount of the injected drug at all areas shouldn’t be more than 1 ml during 1 week. For the injection into the lesion focus it is recommended to apply the tuberculin syringe with the needle of 26 gauge.

The recommended single doses of the drug (with 1 week interval between the injections) in bursitis: in callositas 0.25-0.5 ml (generally 2 injections are effective), in calcars – 0.5 ml, in restriction of hallux movement – 0.5 ml, in synovial cyst – 0.25-0.5 ml, in tendosynovitis – 0.5 ml, in acute gouty arthritis – 0.5-1 ml. The tuberculin syringe with the needle of 25 gauge is suitable for the majority of injections.

When the therapeutic effect is reached, the maintenance dose is selected by the gradual tapering a dose of betamethasone, which is performed with intervals. The dose lowering is hold on until the minimal effective dose is reached.

The drug dose increasing can be needed in the case of the appearance or stress situation appearance threatening (not related to the disease).

The drug withdrawal after the long-term therapy is carried out by the gradual dose lowering.

The patient’s condition follow-up is carried out at least during a year after the termination of the long-term therapy or after the administration in high doses.

**CONTRAINDICATIONS**
- hypersensitivity to the medication ingredients or to another GCS;
- systemic mycoses;
- in case of intra-articular injection: unstable joint, infectious arthritis.

**ADVERSE EFFECTS**
*Cardiovascular system:* chronic cardiac insufficiency (in predisposed patients), arterial pressure increase.
*Musculoskeletal system:* muscle weakness, steroid myopathy, muscle mass loss, strengthening of myasthenic symptoms in severe pseudoparalytic myasthenia, osteoporosis, aseptic necrosis of head of femur or humerus, pathological fractures of tubular bones, tendon ruptures, instability of joints (in the repeated intra-articular injections).
*Digestive system disorders:* erosive-ulcerous lesions of GIT with possible perforation and bleeding, pancreatitis, tympanites.
*Central nervous system:* spasms, elevation of intracranial pressure with papilledema (more often after the therapy termination), dizziness, headache, euphoria, change of mood, depression (with evident psychotic reactions), hyperirritability and insomnia.
*Endocrine system:* menstrual disorder, Itsenko-Cushing syndrome, carbohydrate tolerance lowering, steroid diabetes mellitus or manifestation of latent diabetes mellitus, increased insulin or oral hypoglycemic drugs requirement, impairment of prenatal development, growth and sexual development retardation in children.
*Metabolism:* hypernatremia, increased potassium secretion, increased calcium excretion, hypokalemic alkalosis, fluid retention in the tissues, negative nitric balance (due to the protein catabolism), lipomatosis (including mediastinal and epidural lipomatosis, which can cause neurological complications), body weight increase.
*Visual organ:* posterior subcapsular cataract, ocular hypertension, glaucoma, exophthalmus; in rare cases – vision disorder (in case of the drug injection in the area of face and head).
*Dermatological reactions:* wound repair disorder, atrophy and skin thinning, petechia, ecchymosis, hyperhidrosis, dermatitis, eruption.
*Allergic reactions:* anaphylactic reactions, shock, angioedema, arterial pressure decrease.
*Others:* flushing after injection (or intra-articular injection), neurogenic arthropathia, rarely – hyper- or hypopigmentation, subcutaneous and cutaneous atrophy, aseptic abscesses.
**SPECIAL WARNINGS**

The drug injection into soft tissues, in the lesion focus and in the inside of joint can simultaneously lead to the systemic action in case of apparent local action.

With caution **Sertospan** should be prescribed in hypothyroidism, liver cirrhosis, herpetic eye lesion, gastric and duodenal ulcer, nonspecific ulcerative colitis, renal insufficiency, arterial hypertension, osteoporosis, severe myasthenia, thrombocytopenic purpura (intramuscular injection).

Taking into consideration the possibility of the anaphylactoid reactions in case of parenteral injection of GCS it is necessary to take all necessary safety measures before the drug injection, especially if there are some indications to the allergic reactions in the anamnesis.

The hypoglycemic therapy correction can be necessary, when **Sertospan** is prescribed to the patients with diabetes mellitus.

Patients receiving GCS shouldn’t be vaccinated against smallpox, as well as another immunization shouldn’t be carried out especially against the background of the treatment with GCS in high doses, due to the possibility of the neurological complications development and low immune response (the lack of antibody formation). The immunization is possible with the conduction of the replacement therapy (for example, in the primary adrenocortical insufficiency).

Patients taking betamethasone in doses suppressing the immunity should be prevented about the necessity to avoid the contact with the sick persons with smallpox and measles (especially it is important in case of the drug prescription to children).

**Sertospan** prescription in active tuberculosis is possible only in the cases of fulminant or disseminated tuberculosis in conjunction with the adequate antituberculous therapy. When **Sertospan** is prescribed to the patients with latent tuberculosis or with positive reaction to tuberculosis, it is necessary to resolve the question about the preventive antituberculous therapy.

During the drug administration it is necessary to take into consideration that GCS can mask the signs of infectious disease as well as to lower the body resistance to infections.

The continuous administration of GCS can lead to posterior subcapsular cataract (especially in children), glaucoma with possible lesion of optic nerve and can favor the development of secondary eye infection (fungous or viral).

It is necessary to perform the ophthalmological examination, especially in the patients taking **Sertospan** during more than 6 months.

Mental disturbances are possible on the background of **Sertospan** administration, especially in the patients with emotional instability or the addiction to psychosis.

The development of the secondary adrenocortical insufficiency due to the extremely rapid withdrawal of GCS is possible during some months after the therapy termination. In case of the appearance or threatening of the stress situation during this period the therapy with the drug should be repeated.

In case of the increased arterial pressure, fluid and sodium chloride retention in the tissues and the increased potassium excretion from the body the patients should be recommended the diet with the limited amount of salt and they should be additionally prescribed potassium-containing drugs.

When **Sertospan** is co-administrated with cardiac glycosides or drugs influencing on the electrolytic plasma composition, it is necessary to monitor the water-electrolytic balance.

Acetylsalicylic acid should be prescribed with caution in combination with **Sertospan** in hypoprothrombinemia.

The intra-articular injection: when the liquid presents in the articular cavity it is necessary to exclude a septic process. A significant strengthening of painfulness, edema, surrounding tissues temperature increase and following restriction of joint movement indicates the infectious arthritis. When the diagnosis is proved, it is necessary to prescribe the antibacterial therapy.

**EFFECTS ON ABILITY TO DRIVE AND USE MACHINES**
During the treatment it is necessary to exercise caution while driving and performing other potentially dangerous kinds of activities requiring increased attention concentration and rapid psychomotor reactions.

**USE DURING PREGNANCY AND LACTATION**
A preliminary assessment of the potential benefit of therapy for mother and potential risk for fetus is necessary in case of need to prescribe the drug to the pregnant women. When the prescription of Sertospan is needed during lactation period, it is necessary to decide to stop breastfeeding.

**USE IN PEDIATRICS**
Children receiving the drug therapy (especially long-term therapy) should be under the close medical supervision because of the possible growth retardation and the development of the secondary adrenocortical insufficiency.

**DRUG INTERACTIONS**
The acceleration of metabolism of betamethasone with its therapeutic activity decrease can occur in case of simultaneous prescription with phenobarbital, rifampin, phenytoin or ephedrin.
The dose correction of the drugs (because of the risk of their overdose) can be needed in co-administration with estrogens.
The possibility of hypokalemia rises in co-administration with potassium-depleting diuretics.
The co-administration with cardiac glycosides increases the risk of arrhythmia development or digitalis intoxication (due to hypokalemia).
The changes of the blood coagulation requiring the dose correction can occur in co-administration with indirect anticoagulants.
In combined administration with non-steroid anti-inflammatory agents, ethanol or ethanol-containing drugs it is possible the occurrence or intensity rate increasing of the erosive-ulcerative lesions of the GIT.
Betamethasone can increase the potassium removal caused by amphotericin B.
In co-administration the GCSs can decrease the concentration of salicylates in blood plasma.
The simultaneous injection of Sertospan and somatotropin can lead to the delayed absorption of the last one (it is necessary to avoid the injection of betamethasone in doses higher than 0.3-0.45 mg/m² of the body surface per day).

**OVERDOSAGE**
*Symptoms:* acute overdose of betamethasone doesn’t lead to the life threatening situations. The injection of GCS during several days in high doses doesn’t lead to undesired consequences, except the cases when very high doses are administered or in the case of administration in diabetes mellitus, glaucoma and aggravation of erosive-ulcerative lesions of GIT or in case of simultaneous administration of digitalis drug, indirect anticoagulants or potassium-depleting diuretics.
*Treatment:* a close medical supervision of the patient’s condition is necessary. The optimal liquid consumption should be maintained and the electrolyte plasma and urine level, especially the ratio of sodium and potassium ions. In case of need a suitable therapy should be carried out.

**PACKAGING**
Suspension for injections in colourless glass ampoule of 1 ml.
1 or 5 ampoules in a contour tray.
1 contour tray together with a leaflet in a carton box.

**STORAGE CONDITIONS**
Store in a protected from light place at temperature not exceeding 25°C.
Keep out of reach of children!
Do not freeze.

**SHELF LIFE**
3 years from the date of manufacture.
Do not apply after the shelf-life expiration.

**CONDITIONS OF SALES IN DRUGSTORES**
Sold under prescription.

**MANUFACTURER**
The holder of trade mark and Marketing Authorization is
“**DR SERTUS İLAÇ SANAYİ VE TİCARET LİMİTED ŞİRKETİ**, TURKEY.
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