Metforal

Metformin Hydrochloride BP

Composition
Metforal 500: Each tablet contains Metformin Hydrochloride BP 500 mg.
Metforal 850: Each tablet contains Metformin Hydrochloride BP 850 mg.
Metforal SR 500: Each sustained-release tablet contains Metformin Hydrochloride BP 500 mg.

Pharmacology
Metformin is an antihyperglycemic medicine which enhances glucose tolerance in patients with type-2 diabetes mellitus, lowering both basal and postprandial plasma glucose. Metformin decreases hepatic glucose production, decreases intestinal absorption of glucose, and improves insulin sensitivity by increasing peripheral glucose uptake and utilization. With metformin therapy insulin secretion remains unchanged while fasting insulin levels and day-long plasma insulin response may decrease.

Indication and Usage
Metforal is indicated as an adjunct to diet and exercise to improve glycemic control in adults and pediatric patients (10 years of age and older) with type-2 (non-insulin dependent) diabetes mellitus. **Metforal SR** is indicated as an adjunct to diet and exercise to improve glycemic control in adults with type-2 (non-insulin dependent) diabetes mellitus. **Metforal** may be used concomitantly with a sulphonylurea when diet and metformin or sulphonylurea alone do not result in adequate glycemic control. **Metforal** can be used as an adjunct therapy in combination with insulin.

Dosage and Administration
Adult Dosage
Metforal: The recommended starting dose of **Metforal** is 500 mg orally twice a day or 850 mg once a day, given with meals. Increase the dose in increments of 500 mg weekly or 850 mg every two weeks on the basis of glycemic control and tolerability, up to a maximum dose of 2550 mg per day, given in divided doses. Doses above 2000 mg may be better tolerated given three times a day with meals.

Metforal SR: Swallow **Metforal SR** tablet whole and never crush, cut or chew. The recommended starting dose of **Metforal SR** is 500 mg orally once daily with the evening meal. Increase the dose in increments of 500 mg weekly on the basis of glycemic control and tolerability, up to a maximum of 2000 mg once daily with the evening meal. If glycemic control is not achieved with **Metforal SR** 2000 mg once daily, consider a trial of **Metforal SR** 1000 mg twice daily. If higher doses are required, switch to **Metforal** at total daily doses up to 2550 mg administered in divided daily doses, as described above. Patients receiving **Metforal** may be switched to **Metforal SR** once daily at the same total daily dose, up to 2000 mg once daily.

Pediatric Dosage
The recommended starting dose of **Metforal** for pediatric patients (10 years of age and older) is 500 mg orally twice a day, given with meals. Increase dosage in increments of 500 mg weekly on the basis of glycemic control and tolerability, up to a maximum of 2000 mg per day, given in divided doses twice daily.

Contraindication
Metforal is contraindicated in
* Renal disease or dysfunction which may also result from conditions such as cardiovascular collapse (shock), acute MI & septicemia
* Patients undergoing radiologic studies involving parenteral administration of iodinated contrast meals
* Hypersensitivity to Metformin Hydrochloride and
* Acute or chronic metabolic acidosis including diabetic ketoacidosis with or without coma.

Warning and Precaution
* *Monitoring:* Before initiation of therapy and at least annually thereafter, renal function must be assessed and verified. Patients previously well controlled by **Metforal** but develop abnormalities in medical tests should be further evaluated for evidence of ketoacidosis or lactic acidosis. Response to all diabetic therapies by periodic measurement of blood glucose and glycosylated hemoglobin should be monitored. Initial and periodic monitoring of hematologic parameters and renal function should be performed at least on annual basis.
* *Hypoxic states:* Cardiovascular collapse (shock), acute CHF, acute MI and other conditions characterized by hypoxemia have been associated with lactic acidosis and may also cause prerenal azotemia. If such events occur, **Metforal** must be discontinued.
* *Surgical procedure:* Temporarily **Metforal** has to be suspended for surgical procedures.
* *Vitamin B_{12} levels:* Certain individuals with inadequate Vitamin B_{12} or calcium intake or absorption may be predisposed to developing subnormal Vitamin B_{12} levels. In these patients, routine serum Vitamin B_{12} measurements as 2 or 3-year intervals may be useful.

Side Effect
Metformin Hydrochloride, the active ingredient in **Metforal** can cause a rare but serious condition called lactic acidosis that can cause death. Common side effects include diarrhea, nausea, and upset stomach. **Metforal** rarely causes hypoglycemia.

Use in Pregnancy and Lactation
Pregnancy Category B. The drug has been used in pregnant women without any particular problem. Nevertheless, it is generally regarded as a contraindication in pregnancy and insulin should be used in all pregnant diabetic women. **Metforal** enters breast milk in small amounts and is best avoided in lactating mothers.

Use in Children and Adolescents
Safety & efficacy of **Metforal** in children have not been established. Use of **Metforal** in adolescents is supported by evidences from clinical studies, demonstrating a similar response in glycemic control to that seen in adults.

Drug Interaction
Drugs that may affect **Metforal** include Alcohol, Cationic drugs, Cimetidine, Furosemide, Iodinated contrast material and Nifedipine. Drugs that may be affected by **Metforal** include Glyburide and Furosemide. Certain drugs tend to produce hyperglycemia and may lead to loss of glycemic control such as Thiazide and other diuretics, Corticosteroids, Phenothiazines, Thyroid products, Estrogens, Oral contraceptives, Phenytoin, Nicotinic acid, Sympathomimetics, Calcium channel blockers, Isoniazide and Beta-adrenergic blockers.

Overdose
Hypoglycemia has not been seen even with ingestion of amounts greater than 50 grams of Metformin Hydrochloride, although lactic acidosis has occurred in such circumstances. Hemodialysis may be useful for removal of accumulated drug from patients to whom Metformin Hydrochloride overdose is suspected.

Storage
Do not store above 25° C. Protect from light. Keep all medicines out of the reach of children.

Packaging
Metforal 500: Each box contains 10x10's tablets in blister pack.
Metforal 850: Each box contains 5x10's tablets in blister pack.
Metforal SR 500: Each box contains 5x10's tablets in blister pack.

Manufactured by
ZISKA PHARMA
Ziska Pharmaceuticals Ltd.
Kaliakoir, Gazipur, Bangladesh