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METFORMIN DRUG

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Introduction:

Metformin is a well-established ingredient for diabetesmanagement, as monotherapy for the early stages of type 2 diabetes and as an additional treatment for almost all other antihyperglycemic drugs available today. Despite its low potency and a long list of contraindication, metformin remains effective and increases test use due to its well-established effects on glucose metabolism and, as recently shown, its benefits from other cardiovascular risk factors. Unlike insulin and secretagogue, metformin does not increase body weight and when used as monotherapy does not cause hypoglycemia. The most common side effects associated with metformin are mild, temporary abdominal symptoms, which are usually self-limiting. These side effects can be reduced by starting with a low dose of metformin and gradually increasing to a higher level, and by taking metformin during a meal. Lactic acidosis caused by metformin is rare, and the risk of this condition may be reduced by adhering to the precautionary measures and contraindications that prevent the accumulation of metformin or lactate in the body. Many clinical benefits and a lack of safety risks when used with other antihyperglycemic agents have made metformin a preferred combination of medication with other oral agents. Metformin is a well-established ingredient for diabetes management, as monotherapy for the early stages of type 2 diabetes and as an additional treatment for almost all other antihyperglycemic drugs available today. Despite its low potency and a long list of contraindication, metformin remains effective and increases test use due to its well-established effects on glucose metabolism and, as recently shown, its benefits from other cardiovascular risk factors. Unlike insulin and secretagogue, metformin does not increase body weight and when used as monotherapy does not cause hypoglycemia. The most common side effects associated with metformin are mild, temporary abdominal symptoms, which are usually self-limiting. These side effects can be reduced by starting with a low dose of metformin and gradually increasing to a higher level, and by taking metformin during a meal. Lactic acidosis caused by metformin is rare, and the risk of this condition may be reduced by adhering to the precautionary measures and contraindications that prevent the accumulation of metformin or lactate in the body. Many clinical benefits and a lack of safety risks when used with other antihyperglycemic agents have made metformin a preferred combination of medication with other oral agents.

Metformin, which is marketed under the brand name Glucophage is, among other things, the first drug to treat type 2 diabetes, especially for obese people. It is also used in the treatment of polycystic ovary syndrome. It is not associated with weight gain and is taken orally. It is sometimes used as an off-label supplement to reduce the risk of weight gain in people taking antipsychotics and phenelzine.

Metformin is generally well tolerated. Common side effects include diarrhea, nausea, and abdominal pain. It has a lower risk of causing low blood sugar. High levels of lactic acid in the blood are alarming if the drug is used in large doses or given to people with severe kidney problems. Not recommended for those with significant liver disease. Metformin is a Biguanideantihyperglycemic agent. It works by reducing glucose production in the liver, increasing insulin sensitivity in body tissues, and increasing GDF15 production, which reduces food intake and calorie intake. Metformin was discovered in 1922. French physician Jean Sterne began researching humans in the 1950's. It was introduced as a drug in France in 1957 and in the United States in 1995.Listed by the World Health Organization's Essential Medicines.Metformin is the most widely used oral medication for diabetes. It is available as a standard medicine. By 2019, it was the fourth most commonly prescribed drug in the United States, with over 85 million prescriptions.

Diabetes mellitus :

Diabetes mellitus (DM) is a type of diabetes in which the body produces. Metformin is mostly prescribed for the treatment of type 2 diabetes, particularly in obese people. When compared to insulin, glibenclamide, and chlorpropamide, metformin has been demonstrated to lower diabetes-related mortality and morbidity by 30%. Metformin decreases blood glucose levels in a variety of methods, including non-pancreatic processes that do not increase insulin production. It is known as a "insulin sensitizer" because it increases the effects of insulin. Metformin also reduces glucose endo native synthesis in the liver, owing to a decrease in gluconeogenesis and a minor effect on glycogenolysis. Metformin also stimulates insulin signaling and glucose uptake in muscle by activating the enzyme adenosine monophosphate kinase (AMPK), which inhibits critical enzymes involved in

gluconeogenesis and glycogen binding in the liver while promoting insulin signaling and glucose uptake in muscle. Any loss in hepatic capacity causes AMPK activation, which governs cellular bodies and organs. Metformin's mechanism of action in hepatic gluconeogenesis was described in this study.

Side effects :

Metformin has no major adverse effects, however it can cause lactic acidosis, which has symptoms including dizziness, drowsiness, muscle pains, exhaustion, chills, green / cold skin, rapid / harsh breathing, slow / irregular heartbeat, and abdomen pain from diarrhea, nausea, or cleaning.

Conclusion :

Metformin is an anti-diabetic medicine that belongs to the biguanide class and is used to treat type 2 diabetes, particularly in persons who are overweight or obese and have normal kidney function. Hyperinsulinemia, weight loss, enhanced fibrinolysis, improved lipid profiles, and improved endothelial function are all benefits of metformin for type 2 diabetes patients.Although there are safety concerns about the use of metformin in diabetic patients, its benefits and recent results suggest nephroprotective activity against nephrotoxic agents in metformin, and its recent safety records have led researchers to consider the drug's use in insulin-resistant patients more and more. Even before the onset of hyperglycemia, he claims.

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