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A REVIEW ON TELMISARTAN DRUG

[1]Mr. Milind D. Kate, [2]Mr. Shubham S. Gulhane , [3]Miss.Manisha R. Chavhan , [4]Mr. Gajanan J, Rathod , [5]Mrs. Priyanka R. Jayaswal

[1]Assistance Professor Department of Quality assurance, P. Wadhwani college of pharmacy Yavatmal (M.S.)

[2]Assistance Professor Department of Pharmaceutics., P. Wadhwani college of pharmacy Yavatmal (M.S.)

[3]Assistance Professor Department of Quality assurance., P. Wadhwani college of pharmacy Yavatmal (M.S.)

[4]Lecturer Department of Pharmaceutics., P. Wadhwani college of pharmacy Yavatmal (M.S.)

[5]Lecturer Department of Pharmaceutics, P. Wadhwani college of pharmacy Yavatmal (M.S.)

Abstract:

Always consult a healthcare provider for personalized medical advice and information.

Telmisartan is an angiotensin II receptor blocker (ARB) primarily used to treat hypertension and reduce cardiovascular risk. It works by blocking the action of angiotensin II, a hormone that constricts blood vessels, thereby promoting vasodilation and lowering blood pressure.

To achieve blood pressure control in the early morning, a long-acting antihypertensive agent is essential. Telmisartan, an angiotensin II receptor blocker, as well as having a terminal elimination half-life of 24 h, has a large volume of distribution due to its high lipophilicity.

Key words- *Telmisartan, ARB, Angiotensin, Hypertension, Lowering blood pressure*

Corresponding authors:

Mr. Milind D. Kate,

Assistance Professor,

Department of Quality assurance,

P. Wadhwani college of pharmacy Yavatmal (M.S.)

QR code

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1.INTRODUCTION:

Telmisartan is an antihypertensive medication used primarily to treat high blood pressure (hypertension). It belongs to a class of drugs known as angiotensin II receptor blockers (ARBs), which work by relaxing blood vessels to improve blood flow and lower blood pressure. Telmisartan is an angiotensin II receptor antagonist (ARB) commonly used in the management of hypertension (high blood pressure). It works by blocking the action of angiotensin II, a hormone that constricts blood vessels, leading to lowered blood pressure and reduced strain on the heart.

2.Formula and Structure-

C33H30N4O2

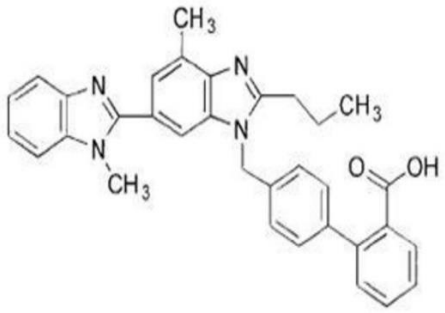

Fig. Telmisartan

3.Mechanism of action

Telmisartan selectively inhibits the AT1 receptor, which helps relax blood vessels, thereby improving blood flow and reducing blood pressure. This action also has beneficial effects on the cardiovascular system, including decreasing the risk of heart failure and stroke.

Telmisartan selectively blocks the AT1 receptor, which is responsible for the effects of angiotensin II.

This leads to:

- Vasodilation
- Decreased secretion of aldosterone
- Reduced reabsorption of sodium

3.1Indication

Telmisartan is primarily indicated for:

- Essential hypertension (primary high blood pressure)
- Cardiovascular risk reduction in certain patients, particularly those with diabetes or metabolic syndrome

4.Dosage of administration

Typically available in tablet form, telmisartan is usually taken once daily, with or without food. Dosage may vary based on individual patient needs and response to treatment.

4.1 Side Effects

Common side effects may include:

- Dizziness
- Fatigue
- Headache
- Elevated potassium levels (hyperkalemia)

Serious side effects are rare but can include kidney problems or allergic reactions.

5.Key Points about Telmisartan:

- **Indications**: Primarily for hypertension; may also be used to reduce the risk of cardiovascular events in certain patients.
- **Mechanism of Action**: Blocks the action of angiotensin II, a hormone that causes blood vessels to constrict.
- **Dosage**: Typically prescribed in doses ranging from 20 mg to 80 mg once daily.
- **Side Effects**: Common side effects may include dizziness, fatigue, and increased potassium levels. Serious side effects can include kidney problems and allergic reactions.
- **Contraindications**: Should not be used in patients with severe kidney impairment, pregnancy, or certain other conditions.

6.Pharmacokinetics: Telmisartan has a long half-life, allowing for once-daily dosing. It is well absorbed, with peak plasma concentrations occurring 0.5 to 1 hour after oral administration. Food does not significantly affect its absorption.

6.1 Indications:

- **Hypertension:** Telmisartan is effective as monotherapy or in combination with other antihypertensives.
- **Cardiovascular Risk Reduction:** It is indicated for reducing the risk of myocardial infarction and stroke in patients with cardiovascular conditions.

6.2 Efficacy: Clinical studies have shown that telmisartan effectively lowers blood pressure and has a favourable impact on cardiovascular outcomes. It has demonstrated comparable efficacy to other ARBs and ACE inhibitors.

6.3 Side Effects: Common side effects include:

- Dizziness
- Fatigue
- Hyperkalemia
- Renal impairment

Serious adverse effects are rare but may include angioedema and hypotension.

6.4 Contraindications: Telmisartan is contraindicated in:

- Patients with a history of hypersensitivity to ARBs
- Pregnant women (especially in the second and third trimesters)
- Severe renal impairment

6.5 Drug Interactions: Telmisartan may interact with other medications, including:

- Diuretics (increased hypotensive effect)
- NSAIDs (potential for renal impairment)
- Potassium supplements (risk of hyperkalemia)

7.Marked Available Telmisartan Dosage-

7.1Telmisartan is typically available in the following dosages:

- **20 mg**
- **40 mg**
- **80 mg**

Always consult a healthcare provider for personalized advice and recommendations regarding medication.

7.2The Brand are available in Indian market

- **Micardis**
- **Telma**
- **Telma-H** (combination with hydrochlorothiazide)
- **Tazloc**
- **Telvas**

7.3The International brand available in market

- **Micardis**
- **Tarbis**
- **Twynsta** (combination with amlodipine)
- **Telmisartan (generic)**

Availability may vary by country, so it's best to consult local pharmacies for specific options

8. CONCLUSION:

Telmisartan is a well-tolerated and effective antihypertensive agent with additional cardiovascular benefits. Its long half-life and once-daily dosing make it a convenient option for patients. Regular monitoring for side effects, especially in patients with renal issues or those on concurrent medications, is essential for safe and effective use.

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