

Telmisartan and Amlodipine Combination Therapy Fact sheet

Rationale for combination therapy treatments in hypertension

- The European Society of Hypertension (ESH) and the European Society of Cardiology (ESC) 2007 Guidelines for the Management of Arterial Hypertension state that the use of more than one agent is necessary to achieve target blood pressure (BP) in the majority of patients¹
 - Only 39% of patients achieve BP control (<140/90mmHg) with diuretic, beta blocker, angiotensin-converting enzyme inhibitor and calcium-channel blocker (CCB) monotherapy²
- Combination treatment is advocated as first-choice treatment for patients at high cardiovascular (CV) risk e.g. patients with diabetes or renal disease¹
- Combinations of drugs from different classes provide different and complementary mechanisms of action, which may help to minimise side effects associated with the respective monotherapy¹
- Fixed-dose combinations (FDC) can reduce the number of tablets taken by the patient, which may aid treatment compliance.¹

Telmisartan and amlodipine combination

- The combination of telmisartan, an angiotensin receptor blocker (ARB), and amlodipine, a CCB, brings together their synergistic and complementary mode of actions to achieve substantial and sustained 24-hour blood pressure lowering³⁻¹²
- The combination of an ARB with a CCB has been shown to reduce the incidence of peripheral oedema, a common side effect of CCBs, such as amlodipine^{13,14,15}
- Unlike many anti-hypertensive treatments, telmisartan and amlodipine:
 - both have long plasma half-lives and have demonstrated 24-hour effective BP reductions¹⁶⁻¹⁸
 - have proven evidence bases in CV outcomes demonstrating cardioprotective benefits^{19,20}
 - have a well established safety and tolerability profile^{20,21}
 - have once daily dosing to aid patient compliance^{20,21}
- The telmisartan and amlodipine combination offers an effective and well-tolerated option for BP control, particularly for difficult-to-treat patients at risk of CV events and those not controlled by amlodipine alone.³⁻¹²

Study design

- The telmisartan and amlodipine combination has been investigated in a double-blind trial, involving 1,461 patients with hypertension who were randomised to one of 16 treatment arms involving telmisartan 0, 20, 40 or 80mg plus amlodipine 0, 2.5, 5 or 10mg for eight weeks¹³
 - Results showed that 24-hour BP reductions were seen with all combinations, with the greatest reductions (-26.4/-20.1 mmHg) and greatest blood pressure control rates (76.5% patients) achieved by telmisartan 80mg in combination with amlodipine 10mg
- The telmisartan and amlodipine combination has been investigated in the following difficult-to-treat patient populations with hypertension:
 - Patients with Type 2 diabetes (n=231)^{4,7}
 - Obese patients (n=783 – clinically obese at baseline, BMI ≥ 30 kg/m²)^{5,7}
 - The elderly (n=202 – aged 65 and over)^{3,8}
 - Black patients (n=75)⁶
 - Treatment-naïve patients (n=300)¹¹
 - Previously treated patients (n=1,123)¹¹

- Patients not adequately controlled with amlodipine 5mg (n=1,097)⁹
- Patients not adequately controlled with amlodipine 10mg (n=947)¹⁰
- Patients with systolic BP (SBP) \geq 160 mmHg (n=454).¹²

Key telmisartan plus amlodipine combination data presented at the 19th Scientific Meeting of ESH, Milan, Italy

In a broad range of difficult-to-treat patients at high CV risk (Type 2 diabetes, obese patients, the elderly, black patients), combination treatment with telmisartan 40-80mg and amlodipine 5-10mg³⁻¹²:

- Provides sustained 24-hour BP control, including the last six hours of the dosing interval and early morning hours when the risk of CV events is highest
- Is well-tolerated with less peripheral oedema compared with amlodipine 10mg alone
- Provides effective BP reduction and control (<140/190 mmHg) in patients whose BP is not controlled with amlodipine 5-10mg alone.

Key results

Type 2 diabetes (n=231)⁴

All telmisartan and amlodipine combinations were effective in achieving BP reductions in patients with Type 2 diabetes. The highest dose combination, telmisartan 80mg plus amlodipine 10mg achieved:

- BP control (<140/90mmHg) in 87.0% (n=20) of patients, with a third (30.4%) reaching the more stringent BP goal of <130/80mmHg (n=7)
- BP reductions in non-diabetics and diabetics of -25.1/-19.4mmHg and -29.1/-20.2mmHg, respectively.^{2,5}

Obesity (n=783 – clinically obese at baseline, BMI \geq 30 kg/m²)⁵

All telmisartan and amlodipine combinations were effective in achieving BP control (<140/90mmHg) in the majority of patients, regardless of weight. In obese and non-obese patients, the highest dose combination, telmisartan 80mg plus amlodipine 10mg achieved:

- Systolic/diastolic BP control in 82%/87% (n=71) and 83%/83% (n=65) respectively
- BP reductions of -24.6/-19.9 mmHg and -27.1/-19.2 mmHg, respectively.

Elderly (n=202 – aged 65 and over)³

All telmisartan and amlodipine combinations provided clinically relevant BP reductions and effective BP control (<140/90mmHg) in the majority of patients, regardless of age. The highest dose combination, telmisartan 80mg plus amlodipine 10mg achieved:

- Systolic/diastolic BP control in 77%/96% (n=22) of elderly patients 65 and over
- BP reductions in patients \geq 65 and < 65 years of age -27.2/-22.8 mmHg and -25.5/-18.9 mmHg, respectively.

Black Patient Populations (n=75)⁶

All telmisartan and amlodipine combinations provided consistent BP reductions in black patients throughout the 24-hour dosing period, when measured by ambulatory blood pressure monitoring (ABPM). The highest dose combination, telmisartan 80mg plus amlodipine 10mg achieved:

- BP reductions of -21.1/-13.9 mmHg (n=9).

Further results

Treatment naïve (n=300) **and previously treated patients** (n=1,123)¹¹

All telmisartan and amlodipine combinations achieved consistent BP control and were well tolerated in patients regardless of prior anti-hypertensive treatment. The highest dose combination telmisartan 80mg plus amlodipine 10mg achieved

systolic/diastolic BP control in 86%/76% of treatment naïve patients (n=29) and 81%/88% of previously treated patients (n=107).

Patients not adequately controlled with amlodipine 5mg (n=1,097)⁹

Switching patients who failed to achieve BP control with amlodipine 5mg to a combination of telmisartan (40 or 80mg) plus amlodipine 5mg resulted in significantly greater BP reductions ($p<0.001$) and BP control rates ($p<0.001$), compared with amlodipine 5mg alone and significantly lower rates of oedema ($p<0.0001$) compared with amlodipine 10mg. Systolic/diastolic BP control was achieved with telmisartan 80mg plus amlodipine 5mg in 66%/64% of patients (n=277).

Patients not adequately controlled with amlodipine 10mg (n=947)¹⁰

Switching patients who have failed to achieve BP control with amlodipine 10mg alone to a combination of telmisartan 80mg plus amlodipine 10mg resulted in greater BP reductions, and significantly better systolic/diastolic BP control (60%/66% patients; $p<0.008$) and response rates ($p=0.002$) compared with amlodipine 10mg alone (n=310).

Patients with SBP \geq 160 mmHg (n=454)¹²

All telmisartan and amlodipine combinations achieved large reductions in SBP among patients with elevated SBP \geq 160 mmHg. Greater BP control was associated with telmisartan 80mg plus amlodipine 10mg, with 73% of patients (n=44) achieving BP control.

About telmisartan (Micardis®/Kinzal®/Pritor®)

Telmisartan is a modern member of the Angiotensin II Receptor Blocker (ARB) class and is being investigated in the most ambitious and far-reaching research programme conducted with an ARB. In the clinical trial programmes ONTARGET™, PROTECTION® and PRoFESS®, over 58,000 patients were enrolled to investigate the cardiovascular protective effects of telmisartan (for more information please visit www.news-landmarktrials.com).

Telmisartan was discovered and developed by Boehringer Ingelheim. Under the trademarks MICARDIS® and MICARDISPLUS® (combination with hydrochlorothiazide) the company markets telmisartan in 84 countries around the world, including the USA, Japan and European countries. Telmisartan is marketed in cooperation with Astellas Pharma Inc. in Japan, Bayer HealthCare in Europe and GlaxoSmithKline in selected markets.

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