

3027482



# AMADAY PL

## Amlodipine and Perindopril Erbumine Tablets

### COMPOSITION

**AMADAY PL 10/8** (Amlodipine 10 mg and Perindopril Erbumine 8 mg Tablets)  
 Each uncoated tablet contains:  
 Amlodipine Besilate BP equivalent to Amlodipine 10 mg  
 Perindopril Erbumine BP 8 mg

**AMADAY PL 5/8** (Amlodipine 5 mg and Perindopril Erbumine 8 mg Tablets)  
 Each uncoated tablet contains:  
 Amlodipine Besilate BP equivalent to Amlodipine 5 mg  
 Perindopril Erbumine BP 8 mg  
 Colour: Iron Oxide Red

**AMADAY PL 10/4** (Amlodipine 10 mg and Perindopril Erbumine 4 mg Tablets)  
 Each uncoated tablet contains:  
 Amlodipine Besilate BP equivalent to Amlodipine 10 mg  
 Perindopril Erbumine BP 4 mg  
 Colour: Iron Oxide Yellow

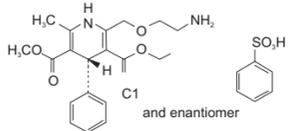
**AMADAY PL 5/4** (Amlodipine 5 mg and Perindopril Erbumine 4 mg Tablets)  
 Each uncoated tablet contains:  
 Amlodipine Besilate BP equivalent to Amlodipine 5 mg  
 Perindopril Erbumine BP 4 mg

### DOSAGE FORM

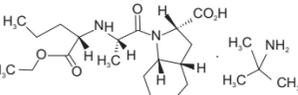
**Distribution Category:** Prescription Only Medicine or POM

### DESCRIPTION

**Amlodipine Besilate**  
 Amlodipine Besilate is chemically 3-Ethyl 5-methyl (4*R*S)-2-[[2-aminoethoxy]methyl]-4-(2-chlorophenyl)-6-methyl-1,4-dihydropyridine-3,5-dicarboxylate benzenesulfonate. Its empirical formula is C<sub>28</sub>H<sub>36</sub>N<sub>2</sub>O<sub>6</sub>S with a molecular weight of 567.10. Amlodipine Besilate has the following structure:



**Perindopril Erbumine**  
 Perindopril Erbumine is chemically 2-Methylpropan-2-amine (2*S*,3*aS*,7*aS*)-1-[(2*S*)-2-[[[(1*S*)-1-(ethoxycarbonyl)butyl]amino]propanoyl]octahydro-1*H*-indole-2-carboxylate. Its empirical formula is C<sub>34</sub>H<sub>46</sub>N<sub>4</sub>O<sub>6</sub> with a molecular weight of 441.6. Perindopril Erbumine has the following structure:



**EXCIPIENT LIST**  
 Microcrystalline Cellulose, Mannitol, Croscarmellose Sodium, Colloidal Silicon Dioxide and Magnesium Stearate. Ferric oxide in Amaday PL 5/8 and Yellow Oxide of Iron in Amaday PL 10/4

### CLINICAL PARTICULARS

**Therapeutic Indications**  
 Perindopril/Amlodipine is indicated as substitution therapy for

treatment of essential hypertension and/or stable coronary artery disease, in patients already controlled with perindopril and amlodipine given concurrently at the same dose level.

#### Dosage and Method of Administration

**Posology**  
 Oral route.  
 One tablet per day as a single dose, preferably to be taken in the morning and before a meal.

The fixed dose combination is not suitable for initial therapy. If the change of the dosage is needed, it should be carried out by individual titration of the free combination's ingredients.

**Patients with renal impairment and elderly**  
 Elimination of perindoprilat is decreased in the elderly and in patients with renal failure. Therefore, the usual medical follow-up will include frequent monitoring of creatinine and potassium.

Perindopril/Amlodipine can be administered in patients with Cl<sub>cr</sub> ≥ 60 ml/min, and is not suitable for patients with Cl<sub>cr</sub> < 60 ml/min. In these patients, an individual dose titration with the mono-components is recommended.

Changes in amlodipine plasma concentrations are not correlated with degree of renal impairment.

#### Patients with hepatic impairment:

A dosage regimen for patients with hepatic impairment has not been established. Therefore, Perindopril/Amlodipine should be administered with caution.

#### Paediatric population

Perindopril/Amlodipine should not be used in children and adolescents as the efficacy and tolerability of perindopril alone or in combination with amlodipine, have not been established in children and adolescents.

#### Contraindications

Linked to perindopril  
 Hypersensitivity to perindopril or to any other ACE inhibitor.

History of angioedema associated with previous ACE inhibitor therapy.

Hereditary or idiopathic angioedema.  
 Second and third trimesters of pregnancy.

Linked to amlodipine  
 Severe hypotension,  
 Hypersensitivity to amlodipine or to any other dihydropyridines,  
 Shock, including cardiogenic shock,

Obstruction of the outflow-tract of the left ventricle (e.g. high grade aortic stenosis),  
 Haemodynamically unstable heart failure after acute myocardial infarction.

Linked to Perindopril/Amlodipine  
 All contraindications related to each mono-component, as listed above, should apply also to the fixed combination of Perindopril/Amlodipine.  
 Hypersensitivity to any of the excipients.

**Special warnings and precaution for use**  
 All warnings related to each mono-component, as listed below, should also apply also to the fixed combination of Perindopril/Amlodipine.

#### Linked to perindopril

##### Special warnings

**Hypersensitivity/Angioedema:**  
 Angioedema of the face, extremities, lips, mucous membranes, tongue, glottis and/or larynx has been reported rarely in patients treated with ACE inhibitors, including perindopril. This may occur at any time during therapy. In such cases, Perindopril/Amlodipine should promptly be discontinued and appropriate monitoring should be initiated and continued until complete resolution of symptoms has occurred. In those instances where swelling was confined to the face and lips the condition generally resolved without treatment, although antihistamines have been useful in relieving symptoms.  
 Angioedema associated with laryngeal oedema may be fatal. Where there is involvement of the tongue, glottis or larynx, likely to cause airway obstruction, emergency therapy should be administered promptly. This may include the administration of adrenaline and/or the maintenance of a patent airway. The patient should be under close medical supervision until complete and sustained resolution of symptoms has occurred.

Patients with a history of angioedema unrelated to ACE inhibitor therapy may be at increased risk of angioedema while receiving an ACE inhibitor.

Intestinal angioedema has been reported rarely in patients treated with ACE inhibitors. These patients presented with abdominal pain (with or without nausea or vomiting); in some cases there was no prior facial angioedema and C-1 esterase levels were normal. The angioedema was diagnosed by procedures including abdominal CT scan, or ultrasound or at surgery and symptoms resolved after stopping the ACE inhibitor.

Intestinal angioedema should be included in the differential diagnosis of patients on ACE inhibitors presenting with abdominal pain.

#### Anaphylactoid reactions during low-density lipoproteins (LDL) apheresis:

Rarely, patients receiving ACE inhibitors during low-density lipoprotein (LDL) apheresis with dextran sulphate have experienced life-threatening anaphylactoid reactions. These reactions were avoided by temporarily withholding ACE inhibitor therapy prior to each apheresis.

#### Anaphylactoid reactions during desensitisation:

Patients receiving ACE inhibitors during desensitisation treatment (e.g. hymenoptera venom) have experienced anaphylactoid reactions. In the same patients, these reactions have been avoided when the ACE inhibitors were temporarily withheld, but they reappeared upon inadvertent rechallenge.

#### Neutropenia/Agranulocytosis/Thrombocytopenia/Anaemia:

Neutropenia/agranulocytosis, thrombocytopenia and anaemia that starts with cholestatic jaundice and progresses to fulminant hepatic necrosis and (sometimes) death. The mechanism of this syndrome is not understood. Patients receiving ACE inhibitors who develop jaundice or marked elevations of hepatic enzymes should discontinue the ACE inhibitor and receive appropriate medical follow-up.

#### Pregnancy:

ACE inhibitors should not be initiated during pregnancy. Unless continued ACE inhibitor therapy is considered essential, patients planning pregnancy should be changed to alternative antihypertensive treatments which have an established safety profile for use in pregnancy. When pregnancy is diagnosed, treatment with ACE inhibitors should be stopped immediately, and, if appropriate, alternative therapy should be started.

#### Dual blockade of the renin-angiotensin-aldosterone system (RAAS)

There is evidence that the concomitant use of ACE-inhibitors, angiotensin II receptor blockers or alsikren increases the risk of hypotension, hyperkalaemia and decreased renal function (including acute renal failure). Dual blockade of RAAS through the combined use of ACE-inhibitors, angiotensin II receptor blockers or alsikren is therefore not recommended. If dual blockade therapy is considered absolutely necessary, this should only occur under specialist supervision and subject to frequent close monitoring of renal function, electrolytes and blood pressure. ACE-inhibitors and angiotensin II receptor blockers should not be used concomitantly in patients with diabetic nephropathy.

#### Precautions for use

**Hypotension:**  
 ACE inhibitors may cause a fall in blood pressure. Symptomatic hypotension is seen rarely in uncomplicated hypertensive patients and is more likely to occur in patients who have been volume depleted (e.g. by diuretic therapy, dietary salt restriction, dialysis, diarrhoea or vomiting, or who have severe renin-depressing hypertension. In patients at high risk of symptomatic hypotension, blood pressure, renal function and serum potassium should be monitored closely during treatment with Perindopril/Amlodipine.

Similar considerations apply to patients with ischaemic heart or cerebrovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular

accident. If hypotension occurs, the patient should be placed in the supine position and, if necessary, should receive an intravenous infusion of sodium chloride 9 mg/ml (0.9%) solution. A transient hypotensive response is not a contraindication to further doses, which can be given usually without difficulty once the blood pressure has increased after volume expansion.

#### Aortic and mitral valve stenosis/hypertrophic cardiomyopathy:

As with other ACE inhibitors, perindopril should be given with caution to patients with mitral valve stenosis and obstruction in the outflow of the left ventricle such as aortic stenosis or hypertrophic cardiomyopathy.

#### Renal impairment:

In cases of renal impairment (creatinine clearance < 60 ml/min) an individual dose titration with the mono-components is recommended. Routine monitoring of potassium and creatinine are part of normal medical practice for patients with renal impairment. In some patients with bilateral renal artery stenosis or stenosis of the artery to a solitary kidney, who have been treated with ACE inhibitors, increases in blood urea and serum creatinine, usually reversible upon discontinuation of therapy, have been seen. This is especially likely in patients with renal insufficiency. If renovascular hypertension is also present there is an increased risk of severe hypotension and renal insufficiency. Some hypertensive patients with no apparent pre-existing renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when perindopril has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment.

#### Linked to Perindopril/Amlodipine

Precautions for use  
 Interactions  
 The concomitant use of Perindopril/Amlodipine with lithium, potassium-sparing diuretics or potassium supplements is not recommended.

#### Interaction with other medicinal products

Linked to perindopril  
Concomitant use not recommended:

Potassium sparing diuretics, potassium supplements or potassium-containing salt substitutes:

Although serum potassium usually remains within normal limits, hyperkalaemia may occur in some patients treated with perindopril. Potassium-sparing diuretics (e.g. spironolactone, triamterene, or amiloride), potassium supplements or potassium containing salt substitutes may lead to significant increases in serum potassium. Therefore, the combination of perindopril with the above-mentioned drugs is not recommended.

If concomitant use is indicated because of demonstrated hypokalaemia, they should be used with caution and with frequent monitoring of serum potassium.

#### Lithium:

Reversible increases in serum lithium concentrations and toxicity (severe neurotoxicity) have been reported during concurrent use of ACE inhibitors. The combination of perindopril with lithium is not recommended. If the combination proves necessary, careful monitoring of serum lithium levels is recommended.

#### Estramustine:

Risk of increased adverse effects such as angioneurotic oedema (angioedema).

#### Concomitant use which requires special care:

Non-steroidal anti-inflammatory drugs (NSAIDs) including acetylsalicylic acid ≥ 3g/day:  
 When ACE-inhibitors are administered simultaneously with non-steroidal anti-inflammatory drugs (i.e. acetylsalicylic acid at anti-inflammatory dosage regimens, COX-2 inhibitors and non-selective NSAIDs), attenuation of the antihypertensive effect may occur.  
 Concomitant use of ACE-inhibitors and NSAIDs may lead to an increased risk of worsening of renal function, including possible acute renal failure, and an increase in serum potassium, especially in patients with poor pre-existing renal function. The combination should be administered with caution, especially in the elderly. Patients should be adequately hydrated and consideration should be given to monitoring renal function after initiation of concomitant therapy, and periodically thereafter.

#### Antidiabetic agents (insulin, hypoglycaemic sulphonamides):

The use of angiotensin converting enzyme inhibitors may increase the hypoglycaemic effect in diabetics receiving treatment with insulin or with hypoglycaemic sulphonamides. The onset of hypoglycaemic episodes is very rare (there is probably an improvement in glucose tolerance with a resulting reduction in insulin requirements).

#### Concomitant use to be taken into consideration:

Diuretics: Patients on diuretics, and especially those who are volume and/or salt depleted, may experience excessive reduction in blood pressure.

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#### Diabetic patients:

In diabetic patients treated with oral antidiabetic agents or insulin, glycaemic control should be closely monitored during the first month of treatment with an ACE inhibitor.

#### Linked to amlodipine:

Precautions for use  
 Patients with impaired hepatic function: As with all calcium antagonists, half-life of amlodipine is prolonged in patients with impaired liver function. The drug should therefore be administered with caution in these patients and with a close monitoring of the hepatic enzymes.

#### Gold:

Nitritoid reactions (symptoms include facial flushing, nausea, vomiting and hypotension) have been reported rarely in patients on therapy with injectable gold (sodium aurothiomalate) and concomitant ACE inhibitor therapy including perindopril.

#### Linked to amlodipine

Concomitant use which requires special care:  
 CYP3A4 inhibitors:

With concomitant use with the CYP3A4 inhibitor erythromycin in young patients and diltiazem in elderly patients respectively the plasma concentration of amlodipine increased by 22% and 50 % respectively. However, the clinical relevance of this finding is uncertain. It cannot be ruled out that strong inhibitors of CYP3A4 (i.e. ketconazole, itraconazole, ritonavir) may increase the

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#### Ethnic differences:

ACE inhibitors cause a higher rate of angioedema in black patients than in non-black patients. As with other ACE inhibitors, perindopril may be less effective in lowering blood pressure in black people than in non-blacks, possibly because of a higher prevalence of low-renin states in the black hypertensive population

#### Cough:

Cough has been reported with the use of ACE inhibitors. Characteristically, the cough is nonproductive, persistent and resolves after discontinuation of therapy. ACE inhibitor-induced cough should be considered as part of the differential diagnosis of cough.

#### Concomitant use which requires special care:

Non-steroidal anti-inflammatory drugs (NSAIDs) including acetylsalicylic acid ≥ 3g/day:  
 When ACE-inhibitors are administered simultaneously with non-steroidal anti-inflammatory drugs (i.e. acetylsalicylic acid at anti-inflammatory dosage regimens, COX-2 inhibitors and non-selective NSAIDs), attenuation of the antihypertensive effect may occur.  
 Concomitant use of ACE-inhibitors and NSAIDs may lead to an increased risk of worsening of renal function, including possible acute renal failure, and an increase in serum potassium, especially in patients with poor pre-existing renal function. The combination should be administered with caution, especially in the elderly. Patients should be adequately hydrated and consideration should be given to monitoring renal function after initiation of concomitant therapy, and periodically thereafter.

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#### Concomitant use to be taken into consideration:

Diuretics: Patients on diuretics, and especially those who are volume and/or salt depleted, may experience excessive reduction in blood pressure.

in blood pressure after initiation of therapy with an ACE inhibitor. The possibility of hypotensive effects can be reduced by discontinuation of the diuretic, by increasing volume or salt intake prior to initiating therapy with low and progressive doses of perindopril.

Sympathomimetics:  
 Sympathomimetics may reduce the antihypertensive effects of ACE inhibitors.

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 Concomitant use of ACE-inhibitors and NSAIDs may lead to an increased risk of worsening of renal function, including possible acute renal failure, and an increase in serum potassium, especially in patients with poor pre-existing renal function. The combination should be administered with caution, especially in the elderly. Patients should be adequately hydrated and consideration should be given to monitoring renal function after initiation of concomitant therapy, and periodically thereafter.

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#### Concomitant use to be taken into consideration:

Diuretics: Patients on diuretics, and especially those who are volume and/or salt depleted, may experience excessive reduction in blood pressure.

Concomitant use which requires special care:  
 Baclofen. Potentiation of antihypertensive effect. Monitoring of blood pressure and renal function, and dose adjustment of the antihypertensive if necessary.

#### Concomitant use to be taken into consideration:

Antihypertensive agents (such as beta-blockers) and vasodilators:  
 Concomitant use of these agents may increase the hypotensive effects of perindopril and amlodipine.

Concomitant use with nitroglycerine and other nitrates or other vasodilators, may further reduce blood pressure and therefore should be considered with caution.

Corticosteroids, tetracosactide: reduction in antihypertensive effect (salt and water retention due to corticosteroids).

Alpha-blockers (prazosin, alfuzosin, doxazosin, tamsulosin, terazosin): increased antihypertensive effect and increased risk of orthostatic hypotension.

Amifostine: may potentiate the antihypertensive effect of amlodipine.

Tricyclic antidepressants/antipsychotics/anaesthetics: increased antihypertensive effect and increased risk of orthostatic hypotension.

#### Pregnancy&Lactation

Given the effects of the individual components in this combination product on pregnancy and lactation: Perindopril/Amlodipine is not recommended during the first trimester of pregnancy. Perindopril/Amlodipine is contraindicated during the second and third trimesters of pregnancy.

#### Perindopril/Amlodipine is not recommended during lactation.

A decision should therefore be made whether to discontinue nursing or to discontinue Perindopril/Amlodipine taking into account the importance of this therapy for the mother.

#### Pregnancy:

##### Linked to perindopril

The use of ACE inhibitors is not recommended during the first trimester of pregnancy. The use of ACE inhibitors is contraindicated during the second and third trimester of pregnancy.

#### Epidemiological evidence regarding the risk of teratogenicity

following exposure to ACE inhibitors during the first trimester of pregnancy has not been conclusive; however a small increase in risk cannot be excluded. Unless continued ACE inhibitor therapy is considered essential, patients planning pregnancy should be changed to alternative antihypertensive treatments which have an established safety profile for use in pregnancy. When pregnancy is diagnosed, treatment with ACE inhibitors should be stopped immediately, and, if appropriate, alternative therapy should be started.

#### Exposure to ACE inhibitor therapy during the second and third trimesters is known to induce human fetotoxicity

(decreased renal function, oligohydramnios, skull ossification retardation) and neonatal toxicity (renal failure, hypotension, hyperkalaemia). Should exposure to ACE inhibitor have occurred from the second trimester of pregnancy, ultrasound check of renal function and skull is recommended. Infants whose mothers have taken ACE inhibitors should be closely observed for hypotension.

#### Linked to amlodipine

The safety of amlodipine in human pregnancy has not been established. Data on a limited number of exposed pregnancies do not indicate that amlodipine or other calcium receptor antagonists have a harmful effect on the health of the fetus. However, there may be a risk of prolonged delivery. In animal studies, reproductive toxicity was observed at high doses. Use in pregnancy is only recommended when there is no safer alternative and when the disease itself carries greater risk for the mother and fetus.

#### Lactation:

##### Linked to perindopril

Because no information is available regarding the use of perindopril during breastfeeding, Perindopril/Amlodipine is not recommended and alternative treatments with better established safety profiles during breast-feeding are preferable, especially while nursing a newborn or preterm infant.

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#### Linked to amlodipine

It is not known whether amlodipine is excreted in breast milk. Similar calcium channel blockers of the dihydropyridine type are excreted in breast milk. A decision on whether to continue/discontinue breast-feeding or to continue/discontinue therapy with amlodipine should be made taking into account the benefit of breast-feeding to the child and the benefit of amlodipine therapy to the mother.

#### Effects on ability to drive and use machines

No studies on the effects of Perindopril/Amlodipine on the ability to drive and use machines have been performed. When driving vehicles or operating machines it should be taken into account that occasionally dizziness or weariness may occur.

#### Undesirable effects

The following undesirable effects have been observed during treatment with perindopril or amlodipine given separately and ranked under the MedDRA classification by body system and under the following frequency:

Very common (≥1/10)  
 Common (≥1/100 to <1/10)  
 Uncommon (≥1/1,000 to <1/100)  
 Rare (≥1/10,000 to <1/1,000)  
 Very rare (<1/10,000)  
 Not known (cannot be estimated from the available data)

Within each frequency grouping, undesirable effects are presented in order of decreasing seriousness.

	Pancreatitis	Very rare	Very rare
	Gastritis	Very rare	-
Hepatobiliary disorders	Hepatitis, cholestatic jaundice	Very rare	-
	Hepatitis either cytotoxic or cholestatic	-	Very rare
Skin and subcutaneous disorders	Quincke's oedema	Very rare	-
	Angioedema of face, extremities, lips, mucous membranes, tongue, glottis and/or larynx	-	Uncommon
	Erythema multiform	Very rare	Very rare
	Alopecia	Uncommon	-
	Purpura	Uncommon	-
	Skin discoloration	Uncommon	-
	Increased sweating	Uncommon	-
	Sweating	-	Uncommon
	Pruritus	Uncommon	Common
	Rash	Uncommon	Common
	Stevens-Johnson Syndrome	Very rare	-
Musculoskeletal disorders	Arthralgia, myalgia	Uncommon	-
	Muscle cramps	Uncommon	Common
	Back pain	Uncommon	-
Renalandurinary disorders	Micturition disorder, nocturia, increased urinary frequency	Uncommon	-
	Renal impairment	-	Uncommon
	Acute renal failure	-	Very rare
Reproductive system disorders	Impotence	Uncommon	Uncommon
	Gynaecomastia	Uncommon	-
General disorders and administration site conditions	Oedema, peripheral oedema	Common	-
	Fatigue	Common	-
	Chest pain	Uncommon	-
	Asthenia	Uncommon	Common
	Pain	Uncommon	-
	Malaise	Uncommon	-

Investigations	Hepatic enzymes elevations: ALT, AST (mostly consistent with cholestasis)	Very rare	-
	Increases in blood urea and serum creatinine, hyperkalaemia	-	Not known

Additional information linked to amlodipine  
 Exceptional cases of extrapyramidal syndrome have been reported with calcium channel blockers.

**Overdose**  
 There is no information on overdose with Perindopril/Amlodipine in humans.

For amlodipine, experience with intentional overdose in humans is limited. Large overdosage could result in excessive peripheral vasodilatation with subsequent marked and probably prolonged systemic hypotension. Any hypotension due to amlodipine overdosage calls for a monitoring in cardiologic intensive care unit. A vasoconstrictor may be helpful in restoring vascular tone and blood pressure, provided that there is no contraindication to its use. Intravenous calcium gluconate may be beneficial in reversing the effects of calcium channel blockade.

Amlodipine is not dialyzable.

For perindopril, limited data are available for overdose in humans. Symptoms associated with the overdose of ACE inhibitors may include hypotension, circulatory shock, electrolyte disturbances, renal failure, hyperventilation, tachycardia, palpitations, bradycardia, dizziness, anxiety, and cough.

The recommended treatment of overdose is intravenous infusion of normal saline solution. If hypotension occurs, the patient should be placed in the shock position. If available, treatment with angiotensin II infusion and/or intravenous catecholamines may also be considered. Perindopril can be removed from the systemic circulation by haemodialysis. Pacemaker therapy is indicated for treatment-resistant bradycardia. Vital signs, serum electrolytes and creatinine concentrations should be monitored continuously.

#### PHARMACOLOGICAL PROPERTIES

**Pharmacotherapeutic group:** Agents acting on the renin-angiotensin system, ACE inhibitors and calcium channel blockers, ATC code: C09BB04.

#### Pharmacodynamic properties

##### Perindopril

Perindopril is an inhibitor of the enzyme that converts angiotensin I into angiotensin II (Angiotensin Converting Enzyme ACE). The converting enzyme, or kinase, is an exopeptidase that allows conversion of angiotensin I into the vasoconstrictor angiotensin II as well as causing the degradation of the vasodilator bradykinin into an inactive heptapeptide.

Inhibition of ACE results in a reduction of angiotensin II in the plasma, which leads to increased plasma renin activity (by inhibition of the negative feedback of renin release) and reduced secretion of aldosterone. Since ACE inactivates bradykinin, inhibition of ACE also results in an increased activity of circulating and local kallikrein-kinin systems (and thus also activation of the prostaglandin system). It is possible that this mechanism contributes to the blood pressure-lowering action of ACE inhibitors and is partially responsible for certain of their side effects (e.g. cough).

Perindopril acts through its active metabolite, perindoprilat. The other metabolites show no inhibition of ACE activity in vitro.

Hypertension:  
 Perindopril is active in all grades of hypertension: mild, moderate, severe; a reduction in systolic and diastolic blood pressures in both supine and standing positions is observed.

Perindopril reduces peripheral vascular resistance, leading to blood pressure reduction. As a consequence, peripheral blood flow increases, with no effect on heart rate.

Renal blood flow increases as a rule, while the glomerular filtration rate (GFR) is usually unchanged. The antihypertensive activity is maximal between 4 and 6 hours after a single dose and is sustained for at least 24 hours: trough effects are about 87-100% of peak effects.

The decrease in blood pressure occurs rapidly. In responding patients, normalisation is achieved within a month and persists without the occurrence of tachyphylaxis. Discontinuation of treatment does not lead to a rebound effect.

Perindopril reduces left ventricular hypertrophy. In man, perindopril has been confirmed to demonstrate vasodilatory properties. It improves large artery elasticity and decreases the media: lumen ratio of small arteries.

#### Amlodipine

Amlodipine is a calcium antagonist and inhibits the influx of calcium ions into cardiac and vascular smooth muscle. The mechanism of the antihypertensive action is due to a direct relaxant effect on vascular smooth muscle.

The precise mechanism by which amlodipine relieves angina has not been fully understood but is determined by the following two actions:

1. Amlodipine dilates peripheral arterioles and thus, reduces the total peripheral resistance (afterload) against which the heart works. This unloading of the heart reduces myocardial energy consumption and oxygen requirements.

2. The mechanism of action of amlodipine also probably involves dilatation of the main coronary arteries and coronary arterioles. This dilation increases the supply in oxygen to myocardium in patients with Prinzmetal's angina attack.

In patients with hypertension, once daily dosing provides clinically significant reductions of blood pressure (in both supine and standing positions) throughout the 24 hour interval.

In patients with angina, once daily administration of amlodipine increases total exercise time, time to angina onset, and time to 1mm ST segment depression.

Amlodipine decreases both angina attack frequency and glyceryl trinitrate tablet consumption.

Amlodipine has not been associated with any adverse metabolic effects or changes in plasma lipids and is suitable for use in patients with asthma, diabetes, and gout.

**Pharmacokinetic properties**  
 The rate and extent of absorption of perindopril and amlodipine from Perindopril/Amlodipine are not significantly different, respectively, from the rate and extent of absorption of perindopril and amlodipine from individual tablet formulations.

##### Perindopril

After oral administration, the absorption of perindopril is rapid and the peak concentration is achieved within 1 hour. The plasma half-life of perindopril is equal to 1 hour. Perindopril is a prodrug. Twenty seven percent of the administered perindopril dose reaches the bloodstream as the active metabolite perindoprilat. In addition to active perindoprilat, perindopril yields five metabolites, all inactive. The peak plasma concentration of perindoprilat is achieved within 3 to 4 hours. As ingestion of food decreases conversion to perindoprilat, hence bioavailability, perindopril should be administered orally in a single daily dose in the morning before a meal.

It has been demonstrated a linear relationship between the dose of perindopril and its plasma exposure.

The volume of distribution is approximately 0.2 l/kg for unbound perindoprilat. Protein binding of perindoprilat to plasma proteins is 20%, principally to angiotensin converting enzyme, but is concentration dependent. Perindoprilat is eliminated in the urine and the terminal half-life of the unbound fraction is approximately 17 hours, resulting in steady-state within 4 days. Elimination of perindoprilat is decreased in the elderly, and also in patients with heart or renal failure. Therefore, the usual medical follow-up will include frequent monitoring of creatinine and potassium.

Dialysis clearance of perindoprilat is equal to 70 ml/min. Perindopril kinetics are modified in patients with cirrhosis: hepatic clearance of the parent molecule is reduced by half. However, the quantity of perindoprilat formed is not reduced and therefore no dosage adjustment is required.

##### Amlodipine

After oral administration of therapeutic doses, amlodipine is well absorbed with peak blood levels between 6-12 hours post dose. Absolute bioavailability has been estimated to be between 64 and 80%. The volume of distribution is approximately 21 l/kg. Its bioavailability is not influenced by food. In vitro studies have shown that approximately 97.5% of circulating amlodipine is bound to plasma proteins.

The terminal plasma elimination half-life is about 35-50 hours and is consistent with once daily dosing. Amlodipine is extensively metabolised by the liver to inactive metabolites. About 60% of the administered dose is excreted in the urine, 10% as unchanged

amlodipine.

#### Preclinical safety data

##### Perindopril

In the chronic oral toxicity studies (rats and monkeys), the target organ is the kidney, with reversible damage.

No mutagenicity has been observed in vitro or in vivo studies. Reproduction toxicology studies (rats, mice, rabbits and monkeys) showed no sign of embryotoxicity or teratogenicity. However, angiotensin converting enzyme inhibitors, as a class, have been shown to induce adverse effects on late fetal development, resulting in fetal death and congenital effects in rodents and rabbits: renal lesions and an increase in peri- and postnatal mortality have been observed.

No carcinogenicity has been observed in long term studies in rats and mice.

##### Amlodipine

#### Carcinogenesis, Mutagenesis, Impairment of Fertility

Rats and mice treated with amlodipine in the diet for two years, at concentrations calculated to provide daily dosage levels of 0.5, 1.25, and 2.5 mg/kg/day (8 times\* the maximum recommended human dose of 10 mg on a mg/m2 basis). In another rat study in which male rats were treated with amlodipine besilate for 30 days at a dose comparable with the human dose based on mg/kg, decreased plasma follicle-stimulating hormone and testosterone were found as well as decreases in sperm density and in the number of mature spermatids and Sertoli cells.

Mutagenicity studies revealed no drug related effects at either the gene or chromosome levels.

Reproductive studies have shown that calcium antagonists induce embryotoxic and/or teratogenic effects in several species, mainly as distal skeletal malformations.

There was no effect on the fertility of rats treated with amlodipine (males for 64 days and females 14 days prior to mating) at doses up to 10 mg/kg/day (8 times\* the maximum recommended human dose of 10 mg on a mg/m2 basis). In another rat study in which male rats were treated with amlodipine besilate for 30 days at a dose comparable with the human dose based on mg/kg, decreased plasma follicle-stimulating hormone and testosterone were found as well as decreases in sperm density and in the number of mature spermatids and Sertoli cells.

Reproductive studies in rats and mice have shown delayed date of delivery, prolonged duration of labour and decreased pup survival at dosages approximately 50 times greater than the maximum recommended dosage for humans based on mg/kg.

\*Based on patient weight of 50 kg.

#### PHARMACEUTICAL PARTICULARS

##### Incompatibilities

Not applicable.

##### Shelf life

24 months

##### Storage Condition

Store below 25°C. Protect from light and moisture.

##### Name and Contents of Container

10 tablets in Alu-Alu blister. 3 such blisters are packed in a carton along with pack-insert.

Manufacturing Authorization Holder	Manufacturer
Ajanta Pharma Limited Ajanta House, Charkop Kandivli (West) Mumbai - 400 067, India. Tel : 29612111/2112 Fax : 29612070 Email : info@ajantapharma.com	Ajanta Pharma Limited Mirza-Palashbari Road, Village Kokjhar, Kamrup (R), Guwahati, Assam - 781128, India.

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## AMADAY PL Amlodipine and Perindopril Erbumine Tablets

### PATIENT INFORMATION LEAFLET

Read all of this leaflet carefully before you start taking this medicine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor or pharmacist.
- This medicine has been prescribed for you only.
- Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects, talk to your doctor or pharmacist.

This includes any possible side effects not listed in this leaflet.

**Distribution Category:** Prescription Only Medicine or POM

#### In this leaflet:

1. What Amaday PL Tablet is and what it is used for
2. What you need to know before you take Amaday PL Tablet
3. How to take Amaday PL Tablet
4. Possible side effects
5. How to store Amaday PL Tablet
6. Contents of the pack and other information

#### 1. What Amaday PL Tablet is and what it is used for

Amaday PL Tablet is prescribed for treatment of high blood pressure (hypertension) and/or treatment of stable coronary artery disease (a condition where the blood supply to the heart is reduced or blocked).

Patients already taking Amaday PL Tablet from separate tablets may instead receive one tablet of Amaday PL Tablet which contains both ingredients.

Amaday PL Tablet is a combination of two active ingredients, perindopril and amlodipine.

Perindopril is an ACE (angiotensin converting enzyme) inhibitor. Amlodipine is a calcium antagonist (which belongs to a class of medicines called dihydropyridines). Together they work to widen and relax the blood vessels, which results in a reduction of blood pressure. Blood can flow through the body more easily and the heart does not need to work so hard.

#### 2. Before you take Amaday PL Tablet

**Do not take this medicine and tell your doctor if:**

- If you are allergic to perindopril tert-butylamine or any other ACE inhibitor, amlodipine besylate or any other dihydropyridines, or any of the other ingredients of this medicine.
- If you are more than 3 months pregnant. (It is also better to avoid Amaday PL Tablet in early pregnancy – see pregnancy section.)
- If you have experienced symptoms such as wheezing, swelling of the face or tongue, intense itching or severe skin rashes with previous ACE inhibitor treatment or if you or a member of your family have had these symptoms in any other circumstances (a condition called angioedema).
- If you have cardiogenic shock (when the heart is unable to supply sufficient blood to the body), aortic stenosis (narrowing of the main blood vessels leading from the heart) or unstable angina (chest pain that may occur when resting).
- If you have severe low blood pressure (severe hypotension),
- If you suffer from heart failure (the heart fails to pump blood adequately resulting in the shortness of breath or peripheral swellings such as swelling of the legs, ankles or feet) after an acute heart attack.
- If you have diabetes or impaired kidney function and you are treated with a blood pressure lowering medicine containing alicikren.

#### Warnings and Precautions

Talk to your doctor or pharmacist before taking Amaday PL Tablet:

- if you have hypertrophic cardiomyopathy (cardiac muscle disease) or renal artery stenosis (narrowing of the artery which supplies the kidney with blood),
- if you have any other heart problems,

- if you have impaired liver function,
- if you have kidney problems or if you are receiving dialysis,
- if you have collagen vascular disease (disease of the connective tissue) such as systemic lupus erythematosus or scleroderma,
- if you have diabetes,
- if you are on a salt restricted diet or use salt substitutes which contain potassium (a well-balanced potassium blood level is essential).
- if you are taking any of the following medicines used to treat high blood pressure:
  - an angiotensin II receptor blocker (ARBs) (such as sartans – for example valsartan, telmisartan, irbesartan), in particular if you have diabetes-related kidney problems,
  - alicikren

Your doctor may check your kidney function, blood pressure, and the amount of electrolytes (e.g. potassium) in your blood at regular intervals.

You must tell your doctor if you think you are (or might become) pregnant. Amaday PL Tablet is not recommended in early pregnancy, and must not be taken if you are more than 3 months pregnant, as it may cause serious harm to your baby if used at that stage (see pregnancy section).

When you are taking Amaday PL Tablet, you should also inform your doctor or the medical staff if you:

- are going to have a general anaesthetic and/or major surgery,
- have recently suffered from diarrhoea or vomiting (being sick),
- are to undergo LDL apheresis (the removal of cholesterol from your blood by a machine),
- are going to have desensitization treatment to reduce the effects of an allergy to bee or wasp stings.

#### Children and adolescents

Amaday PL Tablet is not recommended for use in children and adolescents.

#### Other medicines and Amaday PL Tablet

Tell your doctor or pharmacist if you are taking, have recently taken or might take any other medicines.

You should avoid Amaday PL Tablet with:

- Lithium (used to treat mania or depression),
  - Estramustine (used in cancer therapy),
  - Potassium-sparing diuretics (spironolactone, triamterene), potassium supplements or salt substitutes containing potassium.
- Treatment with Amaday PL Tablet can be affected by other medicines. Make sure to tell your doctor if you are taking any of the following medicines as special care may be required:
- other medicines for high blood pressure, including diuretics (medicines which increase the amount of urine produced by the kidneys),
  - non-steroidal anti-inflammatory drugs (e.g. ibuprofen) for pain relief or high dose acetylsalicylic acid,
  - medicines to treat diabetes (such as insulin),
  - medicines to treat mental disorders such as depression, anxiety, schizophrenia etc. (e.g. tricyclic antidepressants, antipsychotics, imipramine-like antidepressants, neuroleptics),
  - immunosuppressants (medicines which reduce the defense mechanism of the body) used for the treatment of autoimmune disorders or following transplant surgery (e.g. cyclosporine),
  - allopurinol (for the treatment of gout),
  - procainamide (for the treatment of an irregular heart beat),
  - vasodilators including nitrates (products that widen the blood vessels),
  - heparin (medicines used to thin blood),
  - ephedrine, noradrenaline or adrenaline (medicines used to treat low blood pressure, shock or asthma),
  - baclofen used to treat muscle stiffness in diseases such as multiple sclerosis,

- some antibiotics such as rifampicin,
  - antiepileptic agents such as carbamazepine, phenobarbital, phenytoin, fosphenytoin, primidone,
  - itraconazole, ketoconazole (medicines used for treatment of fungal infections),
  - alpha-blockers used for the treatment of enlarged prostate such as prazosin, alfuzosin, doxazosin, tamsulosin, terazosin,
  - amifostine (used to prevent or reduce side effects caused by other medicines or radiation therapy that are used to treat cancer),
  - corticosteroids (used to treat various conditions including severe asthma and rheumatoid arthritis),
  - gold salts, especially with intravenous administration (used to treat symptoms of rheumatoid arthritis).
- Your doctor may need to change your dose and/or to take other precautions:
- If you are taking an angiotensin II receptor blocker (ARB) or alicikren.

#### Amaday PL Tablet with food and drink

Amaday PL Tablet should be taken before a meal.

#### Pregnancy and breast-feeding

If you are pregnant or breast-feeding, think you may be pregnant or are planning to have a baby, ask your doctor or pharmacist for advice before taking this medicine.

#### Pregnancy

You must tell your doctor if you think you are (or might become) pregnant. Your doctor will normally advise you to stop taking Amaday PL Tablet before you become pregnant or as soon as you know you are pregnant and will advise you to take another medicine instead of Amaday PL Tablet.

Amaday PL Tablet is not recommended in early pregnancy, and must not be taken when more than 3 months pregnant, as it may cause serious harm to your baby if used after the third month of pregnancy.

#### Breast-feeding

Tell your doctor if you are breast-feeding or about to start breast-feeding. Amaday PL Tablet is not recommended for mothers who are breast-feeding, and your doctor may choose another treatment for you if you wish to breast-feed, especially if your baby is newborn, or was born prematurely.

#### Driving and using machines

Amaday PL Tablet does not affect alertness but you might experience dizziness or weakness due to low blood pressure which could affect your ability to drive or operate machinery. You are advised not to drive a car or operate machinery until you know how Amaday PL Tablet affects you.

#### 3. How to take Amaday PL Tablet

Always take this medicine exactly as your doctor has told you. Check with your doctor or pharmacist if you are not sure.

Swallow your tablet with a glass of water, preferably at the same time each day, in the morning, before a meal. Your doctor will decide on the correct dose for you. This will normally be one tablet per day.

Amaday PL Tablet will usually be prescribed for patients already taking Amaday PL Tablet from separate tablets.

#### If you take more Amaday PL Tablet than you should

If you take too many tablets, contact your nearest accident and emergency department or tell your doctor immediately. The most likely symptoms of overdose are low blood pressure which can make you feel dizzy or faint. If this happens, lying down with your legs raised can help.

#### If you forget to take Amaday PL Tablet

It is important to take your medicine every day as regular treatment works better. However, if you forget to take a dose of Amaday PL Tablet, take the next dose at the usual time. Do not take a double dose to make up for a forgotten tablet.

#### If you stop taking Amaday PL Tablet

As the treatment with Amaday PL Tablet is usually life-long, you should discuss with your doctor before you stop taking your tablets.

If you have any further questions on the use of this medicine, ask your doctor or pharmacist.

#### 4. Possible side effects

Like all medicines, this medicine can cause side effects, although not everybody gets them. If you experience any of the following, stop taking the medicinal product at once and tell your doctor immediately:

- symptoms of allergic reaction such as swelling of the face, lips, mouth, tongue or throat, difficulty in breathing,
- severe dizziness or fainting,
- Unusual fast or irregular heartbeat.

#### Other side effects include:

**Common side effects (occur in less than 1 in 10 users but in more than 1 in 100 users):**

Headache, dizziness, vertigo, pins and needles, somnolence (sleepiness), vision disturbances, tinnitus (sensation of noises in the ears), palpitations (very fast heartbeat), flushing (hot or warm feeling in your face), light-headedness due to low blood pressure, cough, shortness of breath, nausea (feeling sick), vomiting (being sick), abdominal pain, taste disturbances, dyspepsia or difficulty of digestion, diarrhoea, constipation, allergic reactions (such as skin rashes, itching), muscle cramps, feeling of tiredness, edema (swelling of your legs or ankles).

Mood swings, sleep disturbances, trembling, syncope (temporary loss of consciousness), loss of pain sensation, rhinitis (blocked up or runny nose), changed bowel habits, hair loss, red or discoloured patches on skin, back, muscle, joint pain, chest pain, increased need to urinate

Especially during the night, malaise (general feeling of being unwell), bronchospasm (lightening of the chest, wheezing and shortness of breath), dry mouth, angioedema (symptoms such as wheezing, swelling of the face or tongue), kidney problems, impotence, increased sweating, breast enlargement in men, weight increase or decrease,

#### Very rare side effects (occur in less than 1 in 10,000 users):

Confusion, cardiovascular disorders (irregular heartbeat, angina, heart attack and stroke), eosinophilic pneumonia (a rare type of pneumonia), erythema multiforme (a skin rash which often starts with red itchy patches on your face, arms or legs), disorders of the blood, pancreas, stomach or liver, peripheral neuropathy (disease that produces loss of sensations, pain, inability to control muscles), hypertonia (abnormal increase in muscle tension), vasculitis (inflammation of blood vessels of the skin), swelling of the gums, high blood sugar.

The following side effects have also been reported by patients taking Amaday PL Tablet:

Hypoglycemia (very low blood sugar level), vasculitis (inflammation of blood vessels).

#### Reporting of side effects

If you get any side effects, talk to your doctor or pharmacist. This includes any possible side effects not listed in this leaflet. By reporting side effects you can help provide more information on the safety of this medicine.

#### 5. How to store Amaday PL Tablet

- Keep this medicine out of the sight and reach of children.
- Do not use this medicine after the expiry date which is stated on the packaging. The expiry date refers to the last day of that month.

- Store in the original package in order to protect from light and moisture.
- This medicine does not require any special temperature storage conditions.
- Do not throw away any medicines via wastewater or household waste. Ask your pharmacist how to throw away medicines you no longer use. These measures will help protect the environment.

#### 6. Contents of the pack and other information

**What Amaday PL Tablet contains:**

The active ingredient is

**AMADAY PL 10/8** (Amlodipine 10 mg and Perindopril Erbumine 8 mg Tablets)  
 Each uncoated tablet contains:  
 A