



Summary of investigation results

Angiotensin-converting enzyme inhibitors and angiotensin II receptor blockers

June 3, 2014

Non-proprietary Name

See Annex

Brand Name (Marketing Authorization Holder)

See Annex

Indications

See Annex

Summary of revision

The following information should be added in Precautions for concomitant use section:

Renal impairment, hyperkalaemia, and/or hypotension may occur when angiotensin-converting enzyme inhibitors (ACEIs) and angiotensin II receptor blockers (ARBs) are concomitantly used.

Background of the revision and investigation results

A meta-analysis was conducted to evaluate the efficacy and safety of the concomitant use of ACEIs and ARBs. A literature on the meta-analysis reported that risks of renal impairment, hyperkalaemia, and hypotension were significantly higher in the concomitant therapy group than in the monotherapy group. Following an investigation result based on opinions of expert advisors and available evidence, the MHLW/PMDA concluded that revision of the package inserts was necessary.



Annex

Non-proprietary name	Brand Name (Marketing Authorization Holder)	Indications
Alacepril	CETAPRIL tablets 12.5 mg, 25 mg, 50 mg (Dainippon Sumitomo Pharma Co., Ltd.) and the others	Essential hypertension, renal hypertensions
Imidapril hydrochloride	TANATRIL tablets 2.5 mg, 5 mg (Mitsubishi Tanabe Pharma Corporation) and the others	Hypertension, renal parenchymal hypertension, diabetic nephropathy in type 1 diabetes mellitus
	TANATRIL tablets 10 mg (Mitsubishi Tanabe Pharma Corporation) and the others	Hypertension, renal parenchymal hypertension
Enalapril maleate	RENIVACE tablets 2.5 mg, 5 mg, 10 mg (MSD K.K.) and the others	<ul style="list-style-type: none">Essential hypertension, renal hypertensions, renovascular hypertension, malignant hypertensionMild to moderate chronic cardiac failure which has not adequately responded to basic therapies including the use of digitalis formulas and/or diuretics.
Captopril	CAPTORIL tablets 12.5 mg, 25 mg, CAPTORIL fine granules 5% (Daiichi Sankyo Espha Co., Ltd.) and the others	Essential hypertension, renal hypertensions, renovascular hypertension, malignant hypertension
	CAPTORIL-R capsules 18.75 mg (Daiichi Sankyo Espha Co., Ltd.) and the others	Essential hypertension, renal hypertensions
Quinapril hydrochloride	Conan tablets 5 mg, 10 mg, 20 mg (Mitsubishi Tanabe Pharma Corporation)	Hypertension
Cilazapril hydrate	INHIBACE tablets 0.25 mg, 0.5 mg, 1 mg (Chugai Pharmaceutical Co., Ltd.) and the others	Hypertension
Temocapril hydrochloride	ACECOL tablets 1 mg, 2 mg, 4 mg (Daiichi Sankyo Company, Limited) and the others	Hypertension, renal parenchymal hypertension, renovascular hypertension
Delapril hydrochloride	ADECUT tablets 7.5 mg, 15 mg, 30 mg (Takeda Pharmaceutical Company Limited) and the others	Essential hypertension, renal hypertensions, renovascular hypertension
Trandolapril	Preran tablets 0.5 mg, 1 mg (Sanofi K.K.), Odric tablets 0.5 mg, 1 mg (Nippon Shinyaku Co., Ltd.) and the others	Hypertension



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This English version is intended to be a reference material to provide convenience for users. In the event of inconsistency between the Japanese original and this English translation, the former shall prevail.

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Benazepril hydrochloride	Cibacen tablets 2.5 mg, 5 mg, 10 mg (Novartis Pharma K.K.) and the others	Hypertension
Perindopril erbumine	COVERSYL tablets 2 mg, 4 mg (Kyowa Hakko Kirin Co., Ltd.) and the others	Hypertension
Lisinopril hydrate	ZESTRIL tablets 5 mg, 10 mg, 20 mg (AstraZeneca K.K.), Longes tablets 5 mg, 10 mg, 20 mg (Shionogi & Co., Ltd.) and the others	<ul style="list-style-type: none">• Hypertension• Mild to moderate chronic cardiac failure which has not adequately responded to basic therapies including the use of digitalis formulas and/or diuretics.
Azilsartan	AZILVA tablets 20 mg, 40 mg (Takeda Pharmaceutical Company Limited)	Hypertension
Irbesartan	AVAPRO tablets 50 mg, 100 mg, 200 mg (Dainippon Sumitomo Pharma Co., Ltd.), Irbetan tablets 50 mg, 100 mg, 200 mg (Shionogi & Co., Ltd.)	Hypertension
Olmesartan medoxomil	OLMETEC tablets 5 mg, 10 mg, 20 mg, 40 mg (Daiichi Sankyo Company, Limited)	Hypertension
Candesartan cilexetil	BLOPRESS tablets 2 mg, 4 mg, 8 mg (Takeda Pharmaceutical Company Limited) and the others	<ul style="list-style-type: none">• Hypertension• Renal parenchymal hypertension• Mild to moderate chronic cardiac failure in which administration of ACEI is not suitable.
	BLOPRESS tablets 12 mg (Takeda Pharmaceutical Company Limited)	<ul style="list-style-type: none">• Hypertension• Renal parenchymal hypertension
Telmisartan	Micardis tablets 20 mg, 40 mg, 80 mg (Nippon Boehringer Ingelheim Co., Ltd.)	Hypertension
Valsartan	DIOVAN tablets 20 mg, 40 mg, 80 mg, 160 mg, DIOVAN OD tablets 20 mg, 40 mg, 80 mg, 160 mg (Novartis Pharma K.K.) and the others	Hypertension
Losartan potassium	NU-LOTAN tablets 25 mg, 50 mg, 100 mg (MSD K.K.) and the others	<ul style="list-style-type: none">• Hypertension• Diabetic nephropathy in type 2 diabetes mellitus concurrently with hypertension and proteinuria

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Azilsartan/Amlodipine besilate	ZACRAS combination tablets LD, HD (Takeda Pharmaceutical Company Limited)	Hypertension
Irbesartan/Amlodipine besilate	AIMIX combination tablets LD, HD (Dainippon Sumitomo Pharma Co., Ltd.)	Hypertension
Irbesartan/Trichlormethiazide	Irtra combination tablets LD, HD (Shionogi & Co., Ltd.)	Hypertension
Olmesartan medoxomil/Azelnidipine	REZALTAS combination tablets LD, HD (Daiichi Sankyo Company, Limited)	Hypertension
Candesartan cilexetil/Amlodipine besilate	UNISIA combination tablets LD, HD (Takeda Pharmaceutical Company Limited)	Hypertension
Candesartan cilexetil/Hydrochlorothiazide	ECARD combination tablets LD, HD (Takeda Pharmaceutical Company Limited)	Hypertension
Telmisartan/Amlodipine besilate	Micamlo combination tablets AP, BP (Nippon Boehringer Ingelheim Co., Ltd.)	Hypertension
Telmisartan/Hydrochlorothiazide	Micombi combination tablets AP, BP (Nippon Boehringer Ingelheim Co., Ltd.)	Hypertension
Valsartan/Amlodipine besilate	EXFORGE combination tablets (Novartis Pharma K.K.)	Hypertension
Valsartan/Cilnidipine	ATEDIO combination tablets (Ajinomoto Pharmaceuticals Co., Ltd.)	Hypertension
Valsartan/Hydrochlorothiazide	Co-DIO combination tablets MD, EX (Novartis Pharma K.K.)	Hypertension
Losartan potassium/Hydrochlorothiazide	PREMINENT combination tablets LD, HD (MSD K.K.)	Hypertension

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