

Special Issue

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노인의 심혈관계 질환

Cardiovascular Disease in the Elderly

146 - 92

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Abstract

The proportion of people aged 65 years or older in Korea is projected to increase from 7.3 percent of the population in 2000 to 15.1 percent in 2020. Cardiovascular disease is the most frequent diagnosis and the leading cause of death in the elderly. Hypertension occurs in one - half to two - thirds of people older than 65 years, and heart failure is the most frequent diagnosis on discharge in elderly patients. The blood pressure in elderly individuals differs from that in young individuals. The systolic pressure increases until 80 years of age, whereas the diastolic pressure rises until around 55, when it levels off or down. Systolic hypertension is a stronger predictor of cardiovascular events. The characteristic findings of blood pressure in the elderly are isolated systolic hypertension, postural hypotension, pseudohypertension and postprandial hypotension. Heart failure with preserved systolic function is more common in old ages. Coronary artery disease is more likely to involve multiple vessels and the left main coronary artery. Angina symptoms are more likely to be absent, or atypical in older patients. Thiazide diuretics are recommended as the first - line treatment of hypertension in elderly patients. There is increasing experience of both percutaneous coronary intervention and coronary artery bypass grafting in older patients. Atrial fibrillation is seen in 10 percent of elderly patients, and they should be on anticoagulation to prevent stroke.

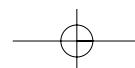
Keywords : Atherosclerosis; Isolated systolic hypertension;
Thiazide diuretics; Percutaneous coronary intervention;
Coronary artery bypass grafting

가 (25.8%) , 가 (25.0%) , 가 (6.7%)

1

60

가
atherosclerosis가
atherosclerosis



1.

	(%)	(%)
30~39	17.5	5.4
40~49	28.6	15.2
50~59	40.0	33.2
60~69	56.8	57.4
70+	52.5	61.5

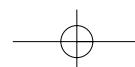
* 2004

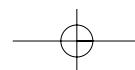
(isolated systolic hypertension, ISH)

(pulse pressure)

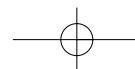
가	Atheroscle-	140mmHg	90mmHg
rosis	,	140mmHg	65
,	atherosclerosis가	2/3	
		JNC 7(2003)	, 50
가	가	SBP@ 140mmHg가 DBP	
		(CVD risk factor)	,
(multi - vessel)	Left main coronary artery	20mmHg	10mmHg
disease가		CVD	2
,	(, ischemic heart di-	6.5	4.5
sease),		8	7.5
		2.5	3

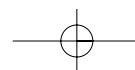
가	가	가
가	,	
가		
가		
pressure, SBP)	80	
,	(systolic blood	
60	pressure, DBP)	50, (5) 2
()		()





- .) dihydropyridine calcium channel blockers
 가 ACE, ARB()
 , 70~80
 , 150
 , ()
 () white -
 coat hypertension(白衣性高血壓)
 2. 가 (假性高血壓, Pseudohypertension)
 stiffness 가 가
 white - coat hypertension brachial artery radial artery calcification
 (target organ damage)
 mage) 가) cuff pressure 가
 24 ambulatory BP monitoring(ABPM)
 , 가
 , 5%
 1. (Isolated Systolic Hypertension, ISH) sign , target organ damage(,
 SBP 140 DBP 가 (90)
 ,
 . Framingham study 65~
 75% (episodes of dizziness, syncope) 가
 ISH 가
 SHEP study ISH
 ,
 , risk 가 27%, 36%, 55%
 (3. (起立性低血壓, Postural Hypotension)
 thiazides) , long - acting





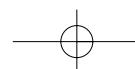
1~3 ()
 20mmHg
 , 가
 500~700ml JNC 7 1

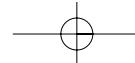
thiazides
 long - acting dihydropyridine calcium channel
 blockers가 ACEi ARB 1
 baroreceptor sensitivity가

SHEP study
 1 10.4%, 3 1.
 12.0% thiazides, loop ,
 (potassium - sparing)
 isometric exercise,
 (sleep with head - up tilt), EWPHE, STOP - Hypertension, SHEP trial
 MRC trial 가
 1 ,

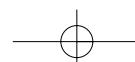
4. (食後性 低血壓, Postprandial Hypotension)

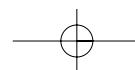
1 20mmHg , 30 가
 Grodzicki (1998) thrombosis가 throm-
 16mmHg , 12mmHg boembolism
 가 24% Thiazides
 digitalis
 hypokalemia가 thiazides
 ()
 insulin ,
 amiloride, spironolactone
 가
 가





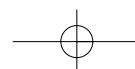
(BPH)	가	tachycardia
		. Long - acting dihydropyridine CCB
2. (Beta Blockers, BB)		. Nondihydropyridine CCB negative inotropic effect
		), (BB
		(COPD), . AV node SA node
		), heart block
		. Nondihydropyridine CCB
		. Dihydro-
BB		pyridine CCB
(cold extremities),), (
		(bradycardia), (Nondihydropyridine CCB), AV block
		(lipid soluble) BB blood - brain barrier
		. Verapamil
		. BB
	가	
		4. ACE
		(Angiotensin Converting Enzyme Inhibitors, ACEI)
		Angiotensin Converting Enzyme(ACE)
		Angiotensin I Angiotensin II
3. (Calcium Channel Blockers, CCB)		Angiotensin II Aldo-
CCB Dihydropyridine (nifedipine, amlodipine, felodipine, isradipine) Non - dihydropyridine (verapamil, diltiazem) 가		sterone
		systolic heart failure)
		long - acting dihydropyridine
		ACEi
		, short - acting long - acting
		. short - acting first - dose hypotension
		reflex
),
		. Dihydropyridine CCB

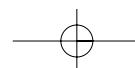




	(30%)	BB가, BPH	- blocker, dyslipidemia
가 ,	가 가 ,	- blocker,	BB long acting CCB,
.	.		BB, ACEI가
	ACEI		.
aspirin	ACEI	,	(Ischemic Heart Disease)

5	2
5.	
(Angiotensin II Receptor Blockers, ARB)	
Angiotensin II가 ACE RAS (Renin - angiotensin system) ACE	
Angiotensin II가 Non - ACE pathway	
ACEI RAS Non - ACE pathway	
ARB Angiotensin II가 receptor site(AT 1 receptor)	
aldosterone	
ARB ACEI ACEI	
ACEI	
hyper-	
kalemia가 (diabetic nephropathy), microproteinuria가	(silent myocardial ischemia)
ARB가 (renal artery stenosis)	50
ARB	70
	36%





(wall tension)

가	가	가	.	.	.
.	가	specificity	.	.	.
가	가	.	.	가	가
.	.	.	.	.	car-
가	가	.	.	.	가
,	LBBB, digitalis	dioselective	1	.	.
.	.	,	non - selective	.	2
가	가	.	.	.	.

	(lipid soluble)	(propranolol)
가 ,	blood - brain barrier	
가 , , , ,		.

(variant angina)

개

가

, dihydropyridine amlodipine, felodipine
 , (PCI) 가 . , AV block nondihy-
 (CABG) dihydropyridine

(80~300mg/d)

가

cyclooxygenase

(ACEj)

Nitrates

ACE

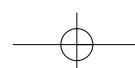
가

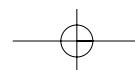
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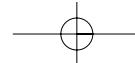
가

(preload)

(afterload)







, 가

PCI

가

30

(Atrial fi-

25%

, brillation)

()

40%

가

AMI

가

(),

가

, (CK - MB, Troponin I, Troponin T,
Myoglobin), (Thallium
scan), CT, MRI,

(가)

warfarin

, PCI

prothrombin time INR 2.0~2.5

INR 3.0

, amiodarone

AMI

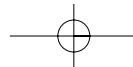
warfarin

warfarin



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(loop 가 thiazides
, ACE),
digitalis, ARB



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