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INTRODUCTION and AIMS

- Hypertension has been shown to be a risk factor for development of dementia.
- Medical treatment of hypertension failed to reduce consistently the risk of dementia [1].
- Experimental study pointed to the difference between different calcium channel blockers (CCB) in their neuro-protective effect [2].
- The aim of our study was to evaluate the risk of dementia during treatment of hypertension with different CCBs.

METHODS

- Retrospective cohort study based on electronic database of Clalit Health Services, Central District, Israel.
- Study period - 11 years (2002-2012).

Inclusion criteria:

1. age 40-75 years
2. hypertension with medical treatment
3. duration of treatment ≥ 30 months
4. single specific CCB (study groups) or no CCB (control group)
5. without diagnosis of dementia

Criteria of diagnosis of dementia (enough one of two):

1. appearance of its diagnostic code in chronic diseases registry
2. prescription of medication for dementia treatment

RESULTS

- 15,664 patients were included
- The mean age - 60.7 years
- Dementia developed in 765 (4.9%) patients.
- Amlodipine use was associated with a 40% decreased risk of dementia (**Table 1**)
- Decreased HR of dementia with amlodipine was demonstrated in patients aged ≥ 60 (HR 0.61, $p < 0.001$), but not in < 60 years old.

Table 1. Study groups and adjusted HR of dementia.

	No CCB	Amlodipine	Nifedipine	Lercanidipine
Number of patients, (%)	9 109 (58.1%)	3 884 (24.8%)	2 062 (13.2%)	609 (3.9%)
Age, years	59.8 \pm 9.1	61.3 \pm 8.5	62.8 \pm 8.4	62.2 \pm 8.9
Treatment length, years	6.5 \pm 2.5	5.4 \pm 2.3	7.1 \pm 2.4	6.4 \pm 2.5
HR of dementia*	1.0	0.60 $p < 0.001$	0.89 $p = 0.38$	0.90 $P = 0.60$

* HR of dementia adjusted for age, baseline SBP, stroke, diabetes and treatment time.

CONCLUSIONS

Treatment of hypertension with amlodipine may be associated with a decreased dementia risk in hypertensive individuals older than 60 years, compared to those treated without CCBs.

REFERENCES

1. Syst-Eur study. Arch Int Med 2002;162: 2046
2. Mol Med 2011;17:149

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53rd ERA-EDTA Congress, 21-24 May 2016, Vienna, Austria