

LONG-TERM COMPARISON OF THE EFFICACY OF ALIROCUMAB AND EVOLOCUMAB: 8-YEAR RETROSPECTIVE OBSERVATIONAL STUDY

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Background and Importance

PCSK9 inhibitors (alirocumab and evolocumab) effectively reduce Low-density lipoprotein (LDLc) and cardiovascular risk, although evidence on their long-term real-world use remains limited.

Aim and Objectives

The aim is to compare LDLc reduction with alirocumab and evolocumab at 6 months, 5 years, and 8 years, analyze the proportion of patients achieving LDLc <55 mg/dL and <70 mg/dL, and describe the incidence of cardiovascular events during follow-up.

Material and Methods:

Study Design

- Retrospective observational study
- Tertiary care hospital
- Inclusion period: 2016–2017

Study Population:

Patients initiating treatment with:

- Alirocumab 150 mg every 14 days
- Alirocumab 300 mg monthly
- Evolocumab 240 mg every 14 days

Variables Collected:

- Demographic characteristics
- Follow-up duration
- LDL-C levels:
 - Baseline
 - 6 months
 - 5 years
 - 8 years
- Cardiovascular events during follow-up

Study Objectives:

Primary Objective

- Compare LDL-C levels at 6 months, 5 years, and 8 years according to treatment (Student's *t*-test)
- Evaluate LDL-C reduction from baseline regardless of treatment (Friedman test)

Secondary Objectives

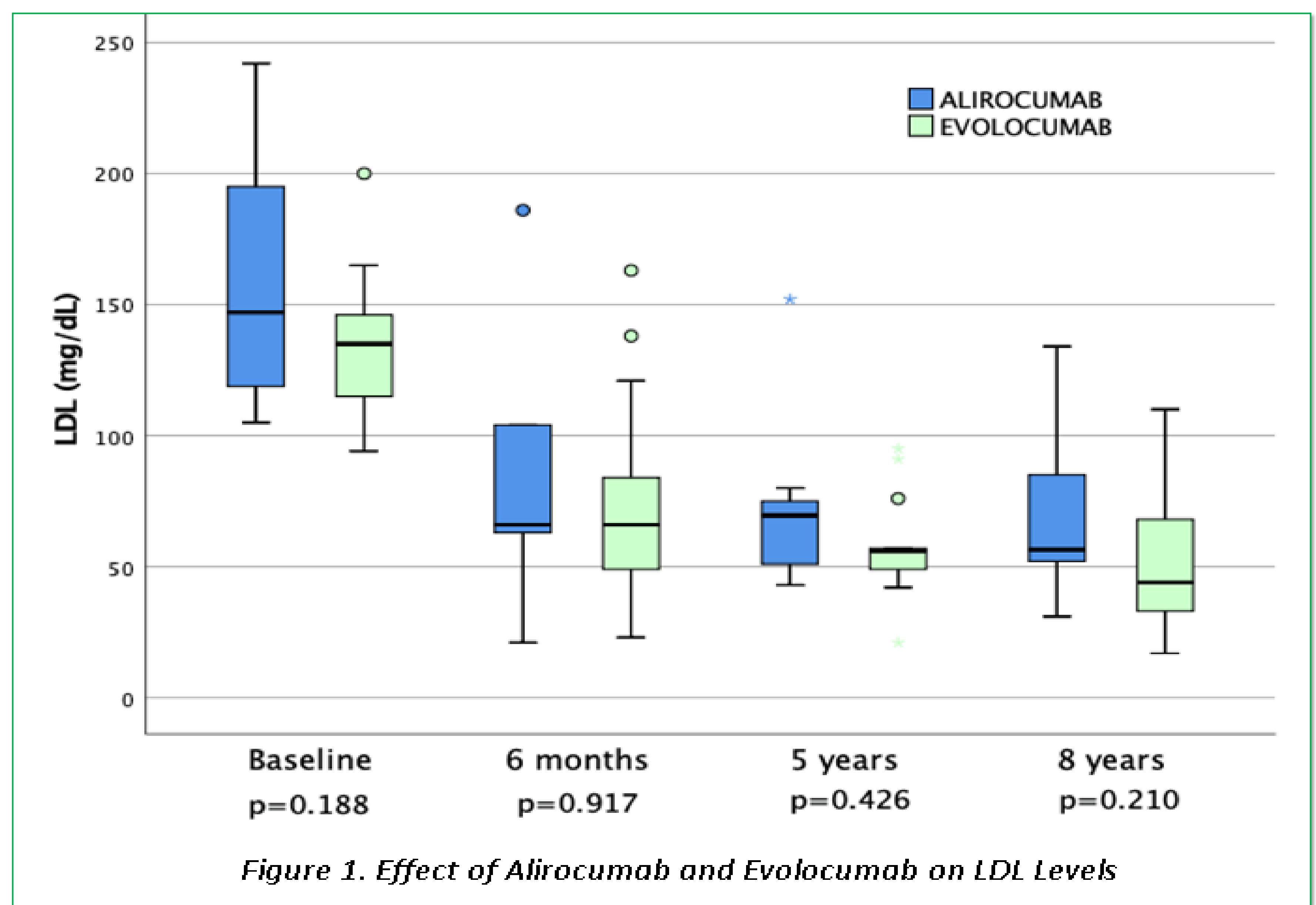
- Proportion of patients achieving:
 - LDL-C <55 mg/dL
 - LDL-C <70 mg/dL
- Incidence of cardiovascular events

Results:

Baseline Characteristic

Variable	Overall (n = 30)
Male sex, n (%)	25 (83%)
Median age, years (range)	66 (46–79)
Median follow-up, years (range)	8.6 (3.5–9.4)
Alirocumab, n (%)	15 (50%)
Baseline LDL-C, mg/dL	148

Time	LDL (mg/dL)	Alirocumab (% patients)	Evolocumab (% patients)	p-value
At 6 months	<70	55	45	0,597
	<55	41	59	0,362
At 5 years	<70	37	62	0,246
	<55	50	50	0,671
At 8 years	<70	50	50	0,509
	<55	45	55	0,248



LDL-C reduction was maintained at 8 years for both treatments
–75.75 mg/dL [95% CI: 55.88–95.61. p < 0.05].

Cardiovascular Events: Alirocumab: 3 events, Evolocumab: 1 event

Conclusión and relevance

In our cohort, both PCSK9 inhibitors achieved sustained LDLc reductions and similar proportions of patients reaching <70 and <55 mg/dL, with no significant differences between alirocumab and evolocumab, consistent with the ODYSSEY and OSLER/FOURIER studies.

