**PCSK9 inhibitors: evaluation of effectiveness in our center in relation to the official clinical endpoints**

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**Background & importance**

Cardiovascular diseases (CVD) are the main cause of mortality developed countries. One of the main cardiovascular risk factors is high LDL-C cholesterol levels. However, for those categories of patients with severe hypercholesterolemia, or patients who are intolerant to statins, there are limited therapeutic options. Currently, evolocumab and alirocumab, cholesterol-lowering monoclonal antibodies, are used. Clinical studies show that their use, in addition to statins, is associated with a reduction of LDL-C up to 50-60% compared to basal levels.

**Aim & objectives**

The aim of the study was to review the use of PCSK9 inhibitors in our center evaluating effectiveness in relation with the official clinical endpoints.

**Material & methods**

The data was retrieved from the web-based register of the Italian Medicines Agency and the patients electronic medical records and internal dispensation programme. All patients being treated with evolocumab and alirocumab were analyzed from the first prescription to the first revaluation. Main variables collected were: Gender; age; indication, LDL value before and after the first revaluation of the treatment; HDL and triglycerides value before and after the first revaluation. The collected data were analyzed and evaluated through the SPSS® program.

**52 Patients**

- medium age: 60.30±14.20 y.
- 60% female
- non-family disease
- family-type disease
- mixed dyslipidemia

**Period of study:** 08/2017 - 09/2019

**Results**

- **29 evolocumab patient**
  - mean LDL value before treatment: 98.54±48.49 (Δ=91.35±36.96 p<0.000)
  - triglycerides =186.16±86.76
  - reached LDL value: 98.54±48.49 (Δ=91.35±36.96 p<0.000)
  - decrease of 51.89%

- **23 alirocumab patient**
  - mean LDL value before treatment: 196.06±45.38, HDL=48.50±12.94
  - triglycerides =164.28±71.19
  - reached LDL value: 84.00±39.53 (Δ =112.06±38.90 p<0.000)
  - decrease of 51.13%

**Conclusion & relevance**

The data confirm the results of the clinical studies: treatment with evolocumab and alirocumab determines the achievement of the primary endpoint of lowering of LDL, while a statistically significant reduction for HDL and triglycerides was not observed.