PREVALENCE OF STATIN-ASSOCIATED MUSCLE SYMPTOMS IN ITALY: THE PROSISA STUDY

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BACKGROUND

Statin associated muscle symptoms (SAMS) are one of the **main reasons for statin non-adherence and/or discontinuation**, contributing to adverse cardiovascular outcomes. However, a definitive diagnosis of SAMS is difficult because symptoms are subjective, influenced by comorbidities, and there is no 'gold standard' diagnostic test. Furthermore, there are not validated questionnaires for their evaluation.

AIM & METHODS

This is a preliminary analysis of the PROSISA (PROject on Statin Intolerance SISA) study, an observational, retrospective and multicentre study. It was aimed at assessing **the prevalence of statin intolerance, due to muscular symptoms, in hypercholesterolemic patients on statin therapy**, followed by 23 Italian lipid clinics.

Demographic information, anamnestic data (clinical history and current pharmacological therapy), biochemical levels (pre- and post-statin treatment), and occurrence of muscular symptoms (type and regional distribution/pattern) were collected through:

- V0 - baseline
- V1 - on statin treatment

and, for patients with SAMS at V1:

- V2 - statin withdrawal
- V3 - rechallenge/therapy change.

A multivariable-adjusted logistic regression model was fitted to estimate odds ratios (ORs) and 95% confidence intervals for the association between reported SAMS onset and several factors.

RESULTS

In 6429 hypercholesterolemic patients (mean age 66.7 ± 12 years; 53.9% males) on statin treatment, the median LDL-cholesterol (LDL-C) levels were 192 mg/dL. The population was characterized by high percentages of comorbidities known to be associated with a higher cardiovascular risk.

Characteristics	N = 6429
Males (%)	53.9
Age (years), mean	66.7
LDL-c (mg/dL), median	192.0
Hypertension (%)	60.4
Familial dyslipidaemia (%)	48.6
Ischemic heart disease (%)	27.9
Peripheral heart disease (%)	26.6
Type II diabetes mellitus (%)	22.4
Malignancy (%)	10.6
Significant liver disease (%)	7.4
Chronic kidney disease (%)	7.0

During the statin therapy, 787 patients (12.2%) reported muscular symptoms (63.9% within the first year of treatment), mainly myalgia (74.2%), cramps (25.8%) and fatigue (18.8%).

Prevalence of SAMS in V1

Type of muscular symptoms

The **risk of SAMS onset** was **significantly higher** for patients with **diabetes** (OR 1.58 [95% CI 1.26-1.98]), using **high potency statins** (OR 1.32 [1.09-1.59]) and treated with an **interacting drugs** (OR 1.65 [1.14-2.39]). Women showed a lower (although not significant) risk of SAMS (OR 0.89 [0.76-1.03]).

Among patients with muscular symptoms in V1, 375 underwent **dechallenge**, with disappearance of muscular symptoms in 87.2% of cases, while overall 503 patients underwent **rechallenge** (237 with change of statin/dose reduction without interruption of therapy) mainly with low-intensity statins, with reappearance of muscular symptoms (myalgia 76.2%) in only 151 patients.

CONCLUSIONS

This analysis offers a **real-life outlook of SAMS in the setting of Italian lipid clinics**. The reported prevalence of SAMS was 12%, but the percentage of patients in whom intolerance has been confirmed by dechallenge/rechallenge was 26-30%, emphasizing the need for physicians to deepen the assessment beyond the simple reporting of muscle symptoms for a definitive diagnosis of SAMS and, if needed, treatment re-evaluation.