

Lipid levels in patients with rheumatoid arthritis and the effect of rituximab

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Introduction

- **Rheumatoid arthritis (RA) is known to be associated with cardiovascular comorbidity**
- **In particular, patients with RA are known to be at increased for the development of atherosclerosis**
- **Treatment with biological agents in RA may affect lipid levels**

Aim

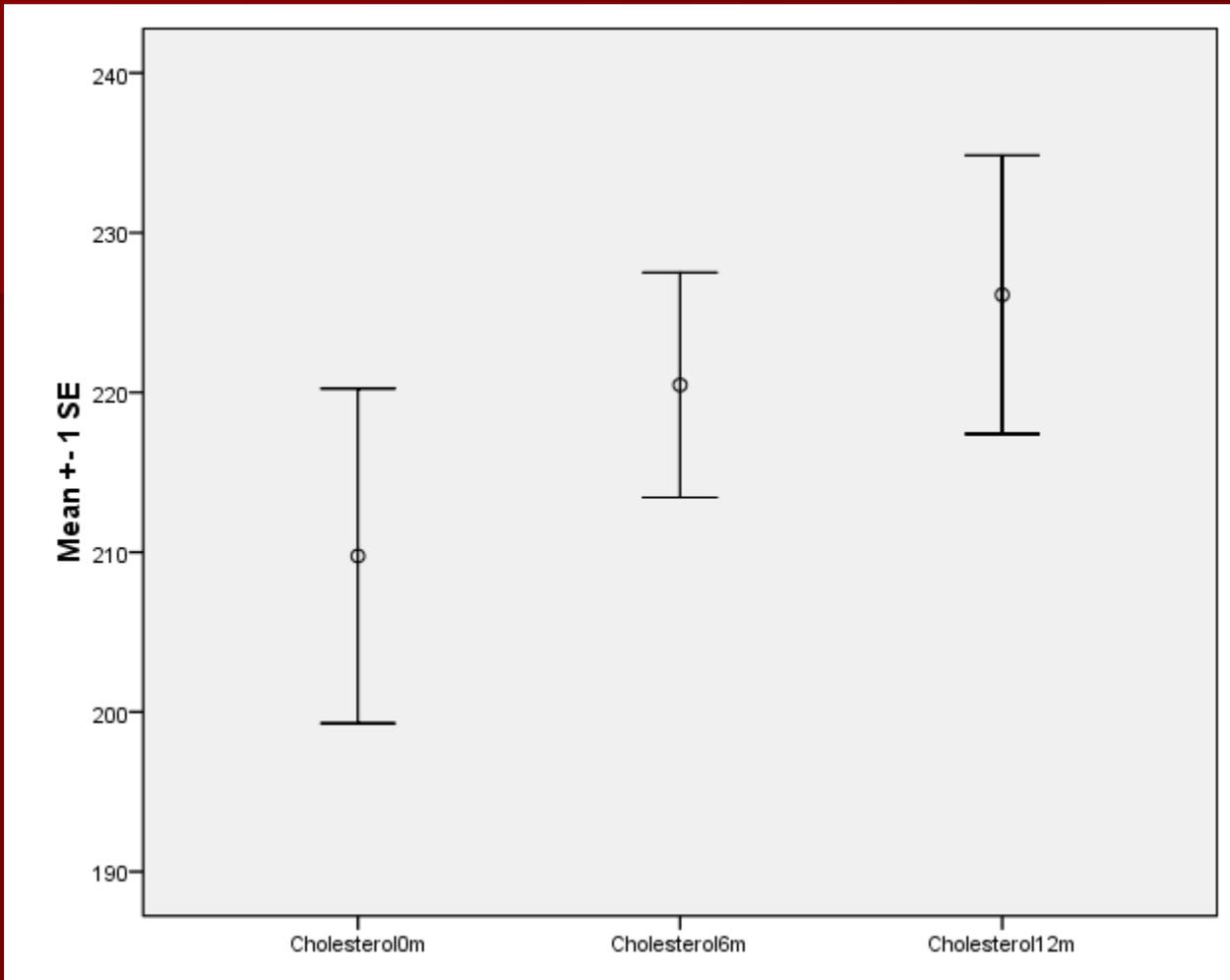
- **The aim was to study the effect of rituximab treatment on lipid levels in RA patients**

Methods

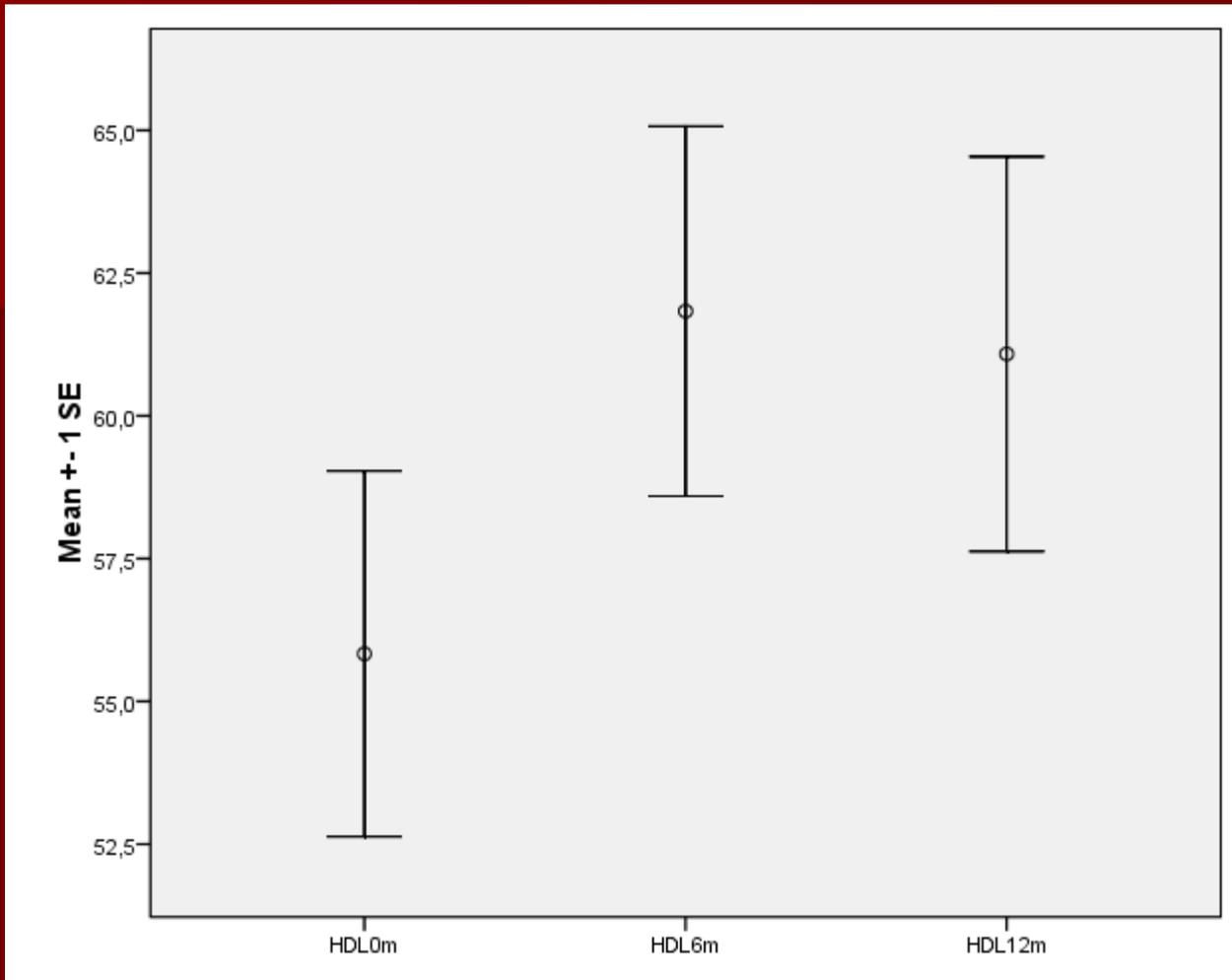
- **In a cohort of 20 patients with RA lipid levels were studied before, 6 and 12 months after treatment with the biological agent rituximab (2x1000 mg i.v. infusions 2 wks apart) at baseline, 6 and 12 months later**
- **All patients fulfilled the 2010 ACR/EULAR criteria for RA**
- **Total cholesterol, HDL, LDL cholesterol and triglyceride levels were measured at baseline, 6 and 12 months later**

Results

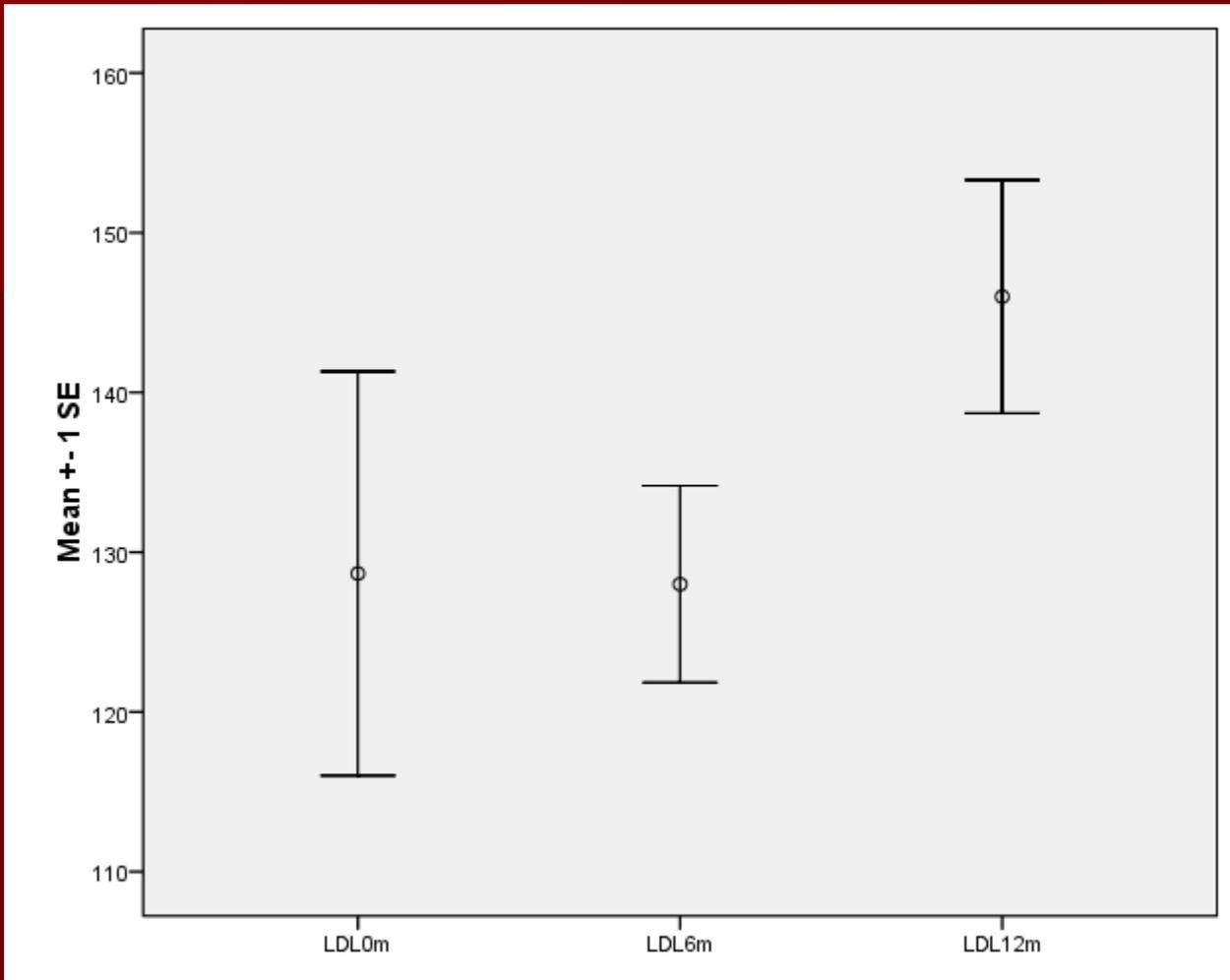
- **At baseline total cholesterol was 207.41 ± 8.33 mg/dl (mean \pm SEM), 6 months and 12 months later increasing to 218.27 ± 7.02 and 226.12 ± 8.71 mg/dl, respectively ($p < 0.001$, Student's t test)**
- **At baseline HDL cholesterol was 59.17 ± 3.31 mg/dl, 6 and 12 months later increasing to 66.05 ± 3.49 and 58.81 ± 3.04 mg/dl, respectively ($p < 0.001$)**
- **At baseline LDL cholesterol was 122.89 ± 8.96 mg/dl, 6 and 12 months later increasing to 124.58 ± 5.61 and 141.56 ± 7.95 mg/dl, respectively ($p < 0.001$)**
- **At baseline triglyceride levels were 138.50 ± 13.91 mg/dl, 6 and 12 months later decreasing to 122.55 ± 10.52 and 118.65 ± 9.91 mg/dl, respectively ($p < 0.001$)**



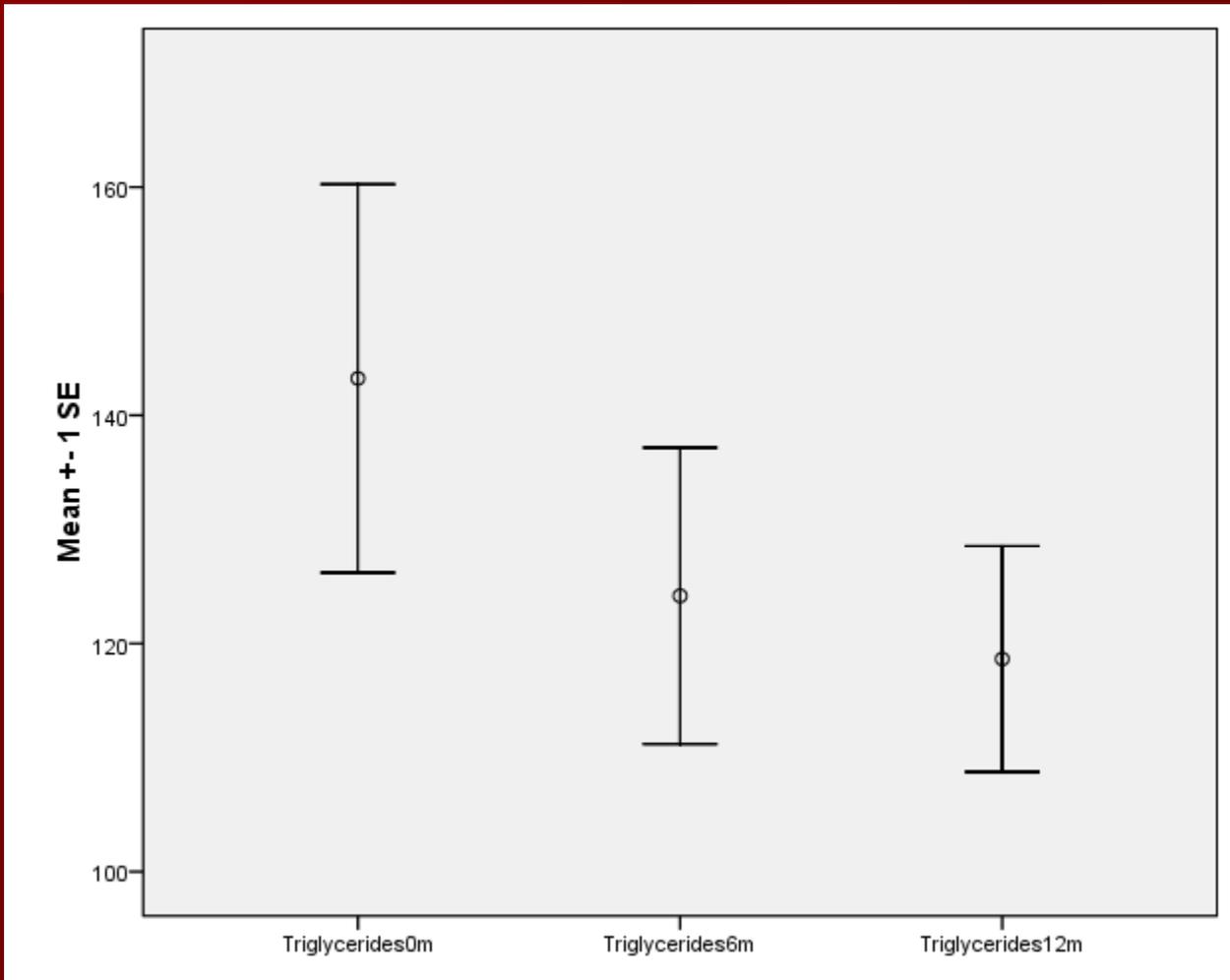
Total cholesterol in patients with RA before, 6 and 12 months after the administration of rituximab



HDL cholesterol in patients with RA before, 6 and 12 months after the administration of rituximab



LDL cholesterol in patients with RA before, 6 and 12 months after the administration of rituximab



Triglyceride levels in patients with RA before, 6 and 12 months after the administration of rituximab

Conclusions

- **Treatment with the biological agent rituximab in RA resulted in an increase in total cholesterol, paralleled by an increase in HDL cholesterol, LDL cholesterol, while triglyceride levels decreased**
- **The adverse effect on total cholesterol levels may be counteracted by the parallel increase in HDL thus conferring a beneficial effect on the patients as far as cardiovascular risk is concerned**
- **These findings have therapeutic implications as the effect of rituximab on lipid levels may render systematic treatment with statins necessary in rheumatoid arthritis**