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 risk for the development of atherosclerosis

- Treatment with biological agents in RA may affect lipid levels
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±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.