

Plasmatic Lipids and bone, the link for new treatments

I Zolfaroli (ES) [1], R Sandra (ES) [2], D Darya (ES) [3], C Antonio (ES) [4]

Context

Cardiovascular disease (CVD) is the leading cause of death in the world.

The incidence of CVD increases with age as well as the incidence of osteoporosis, the main cause of morbidity in the elderly population. Both have a significant increase after menopause.

These two multifactorial diseases coexist in the majority of the postmenopausal women therefore in the last years it has been speculated about a relation between both pathologies, with common alterations. Multiple researchers have opted for dyslipidemia as the basis and connection between CVD and osteoporosis. However, studies to establish the relationship between lipid profile and bone mineral density (BMD) values have been inconclusive.

Objective

The purpose of this work is to investigate the relationship between dyslipidemia and bone profile for its possible use in the prevention of these diseases that have an important clinical and socioeconomic impact on worldwide health.

Methods

This study is based on data from the CARMEN (Chronic Feed Reduction after Menopause) cohort. This cohort is made up of postmenopausal women who attended Women's Health consultation from two hospitals in the city of Valencia between 1998 and 2016.

Patient(s)

All the patients underwent blood tests and bone densitometry in addition to clinical examination. The mean plasma lipid values were: cholesterol 214.71 ± 39.49 , HDL 62.82 ± 15.05 , LDL 133.03 ± 33.05 , TG 100.84 ± 52.44 . The mean densitometry was -1.30 ± 1.35 in the t of the column and -1.10 ± 1.25 in the t of the hip.

Main Outcome Measure(s)

In our study there is a positive correlation between total and LDL cholesterol levels with hip t-score. However, there is no correlation between triglycerides and hip t-score.

Result(s)

There is a weak positive correlation between LDL and t-score of hip ($r = 0.262$, $p < 0.005$), as well as between total cholesterol and hip t-score ($r = 0.270$, $p < 0.005$).

Conclusions

The levels of total cholesterol and LDL influence in the bone densitometry of the patients in our cohort, so an action at this level might help us to prevent the progress of osteoporosis.

