**Inflammatory cells, apoptosis and Chlamydia pneumoniae infection in atherosclerosis.**

[Matturri L](http://www.ncbi.nlm.nih.gov/pubmed?term=Matturri%20L%5BAuthor%5D&cauthor=true&cauthor_uid=11054502), [Cazzullo A](http://www.ncbi.nlm.nih.gov/pubmed?term=Cazzullo%20A%5BAuthor%5D&cauthor=true&cauthor_uid=11054502), [Turconi P](http://www.ncbi.nlm.nih.gov/pubmed?term=Turconi%20P%5BAuthor%5D&cauthor=true&cauthor_uid=11054502), [Roncoroni L](http://www.ncbi.nlm.nih.gov/pubmed?term=Roncoroni%20L%5BAuthor%5D&cauthor=true&cauthor_uid=11054502), [Grana D](http://www.ncbi.nlm.nih.gov/pubmed?term=Grana%20D%5BAuthor%5D&cauthor=true&cauthor_uid=11054502), [Milei J](http://www.ncbi.nlm.nih.gov/pubmed?term=Milei%20J%5BAuthor%5D&cauthor=true&cauthor_uid=11054502).

**Source**

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**Abstract**

Chlamydia pneumoniae (CP), chromosomal alterations and apoptosis were suggested as contributing factors in the pathogenesis of atherosclerosis. Early (EP) and unstable plaques (UP) were studied in order to assess infiltrate composition, the apoptotic index, chromosome 7 stability and to investigate the concurrent presence of CP in EP and UP. Paraffin embedded sections of three iliac arteries and four aortas from young donors (EP), and four coronaries and nine carotid arteries (UP) were used. Aside from histological techniques, immunophenotypification for macrophages, T and B cells, smooth muscle and endothelial cells; FISH and DNA nick end labeling were performed. The amplifications with PCR for CP infection were negative in all specimens. In the EP, a focal myointimal thickening with foam cells and scarce smooth muscle cells was observed. Macrophages were most frequent in the intima (10.8%) while T and B cells were found in 2.3 and 1.5%. In the UP a thin cap covering a lipid-rich core with widespread vascularization and with severe luminal obstruction was observed. Macrophages were increased (21%), and T (1.5%) and B cells (3.5%) in the caps and inner areas of the lipid cores. At these sites, the FISH showed trisomy and tetrasomy of chromosome 7 and apoptosis was very frequent (10-30%). Macrophages in intimal lesions is one of the most prominent, consistent and permanent features in EP, and an elevated apoptotic index and chromosome 7 instability might contribute to evolution from stable to complicated plaques, while CP seems to play no role. However, further studies are needed with more cases to confirm this last observation.

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