

Poster presentation

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Association between inflammatory status and intima-media-thickness in children with juvenile idiopathic arthritis: preliminary data

L Breda*, D Di Marzio, A Scarinci, M Nozzi, K Falasca and F Chiarelli

Address: University of Chieti, Chieti, Italy

* Corresponding author

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Background

Atherosclerosis as a cardiovascular disease has been found even in fetal period. However, information about risk factors of pre-clinical atherosclerosis in childhood has been limited [1].

Studies in childhood showed higher intima-media thickness (IMT) in children with chronic diseases such as type 1 diabetes [2], while no data are reported about juvenile idiopathic arthritis (JIA).

Hence, this study was aimed to find out signs of atherosclerosis and the relationship with markers of systemic inflammation in children with JIA.

Materials and methods

Carotid IMT was measured using high-resolution B-mode ultrasound in 21 JIA prepubertal children (8 M/13 F, mean age 8 ± 2 and mean duration of illness of 2 yrs), and 9 age- and sex-matched healthy controls. Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were used to measure systemic inflammation. Lipid profile was assessed in all patients.

Results

JIA children had an increased IMT ($p = 0.008$) compared to healthy subjects; they also had higher levels of ESR and CRP ($p = 0.001$ and $p = 0.05$ respectively).

No statistically significant differences between left and right carotid artery IMT were found ($p > 0.05$).

There were no significant correlation between IMT and markers of systemic inflammation or lipid levels probably due to the small sample size of this preliminary investigation.

Conclusion

Children with JIA have increased carotid artery IMT indicating the presence of early carotid structural changes. This is consistent with hypotheses of a role to systemic inflammation in the pathogenesis of atherosclerosis in children. More data are needed to confirm our results.

References

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