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Lipid Abnormalities Common in Granuloma Annulare

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BOSTON – A diagnosis of granuloma annulare "should trigger a high index of suspicion for dyslipidemia, especially among patients with generalized and annular disease," said Dr. George Kroumpouzou.

He and his colleagues found that adults with granuloma annulare are four times more likely to develop dyslipidemia than those without the inflammatory dermatosis.



Kreuter et al. BMC Dermatology/
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Adults with granuloma annulare (shown here) are four

times more likely to develop dyslipidemia than those without inflammatory dermatosis.

Therefore, it is incumbent upon physicians treating granuloma annulare patients to communicate with primary care physicians regarding the need for simultaneous dyslipidemia management, said Dr. Kroumpouzou of the dermatology department at Brown University in Providence, R.I.

To estimate the prevalence of dyslipidemia in granuloma annulare patients, the investigators reviewed the medical records of 140 adult patients with idiopathic granuloma annulare and 420 controls matched for age, gender, race, type 2 diabetes, hypertension, and hypothyroidism, according to data presented in a poster at the American Academy of Dermatology's Summer Academy Meeting.

The individuals included in the analysis were seen at a university hospital or a regional health care center from 2002 to 2010. To examine associations between disease characteristics and comorbidities, the granuloma annulare patients were divided into subgroups based on disease extent (localized, disseminated, generalized), morphology (annular, nonannular), and histopathology (interstitial, palisaded, mixed, deep).

Dyslipidemia was defined as the presence of one or more of the following lipid abnormalities: hypercholesterolemia (value greater than 200 mg/dL), hypertriglyceridemia (greater than 150 mg/dL), elevated LDL cholesterol (greater than 130 mg/dL), or low HDL cholesterol (less than 40 mg/dL).

According to the analysis, the prevalence of dyslipidemia in granuloma annulare patients was 79.3%, compared with 51.9% among the matched controls. After adjusting for confounding variables, the odds ratio for dyslipidemia in granuloma annulare was 4.04.

The investigators found that the association with dyslipidemia, which is independent of cardiovascular comorbidities, was more prevalent among individuals with the generalized form of the skin condition than among those with localized or disseminated disease.

"The data also demonstrates a statistically significant association between the extent of disease and dyslipidemia," said Dr. Kroumpouzou in an interview. Dyslipidemia was more common in the generalized disease subgroup than in the localized or disseminated subgroups, he explained. Further, annular lesion morphology was associated with hypercholesterolemia and dyslipidemia, which was an unexpected finding.

Although the findings are limited by the lack of account for other potential confounders, including smoking history, exercise, alcohol use, and use of other medications, and additional studies are needed to confirm the results and validate granuloma annulare as a new marker for dyslipidemia – physicians should be aware of the association, Dr. Kroumpouzou said.

The study was also published in *Archives of Dermatology* (2012 June 18 [[doi: 10.1001/archdermatol.2012.1381](https://doi.org/10.1001/archdermatol.2012.1381)]).

The investigators disclosed no financial conflicts of interest.

In a commentary accompanying the online publication of the study, Dr. Mark V. Dahl wrote that the finding of dyslipidemia among so many granuloma annulare patients "comes as a surprise." The cause of granuloma annulare is unknown, and until now, "only vague hints suggested a possible association with a

lipid abnormality," he wrote, noting, however, that patients with generalized granuloma annulare "occasionally have an abnormality of glucose metabolism, microangiopathy, and microdroplet lipid deposits inside histiocytes" (Arch. Dermatol. 2012 June 18 [[doi: 10.1001/archdermatol.2012.1503](https://doi.org/10.1001/archdermatol.2012.1503)]).

Dr. Dahl is a senior consultant for the department of dermatology at the Mayo Clinic in Scottsdale, Ariz. He disclosed no financial conflicts of interest.

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