

Correspondence

Comment on: Variables associated with subclinical atherosclerosis among rheumatoid arthritis patients of Gulf Cooperative Council countries'

To the Editor

I have read a recent article published in your journal, titled "Variables associated with subclinical atherosclerosis among rheumatoid arthritis patients of Gulf Cooperative Council countries", by Hannawi et al.¹

I would like to congratulate the author for highlighting an extremely important issue in rheumatoid arthritis (RA) patients, that is, cardiovascular morbidity and mortality. Indeed, atherosclerotic events in RA are common and unfortunately easily missed as most patients are asymptomatic from cardiac standpoint. Techniques to detect subclinical atherosclerosis have gained considerable importance giving the rising trends in cardiovascular diseases. Carotid intima-media thickness (cIMT) using ultrasound is a simple, reliable, inexpensive and non-invasive tool to detect subclinical atherosclerosis and has been recommended by the American Heart Association (AHA), American Society of Echocardiography (ASE) and Society for Vascular Medicine (SVM) as a screening test for heart disease in apparently healthy individuals.^{2,3}

The study involves 216 RA patients. It uses cIMT by ultrasound to assess atherosclerosis that is then correlated with traditional cardiovascular risk factors as well as hematological parameters. I cannot recall any such study performed in this region before. Statistical analysis has been carried out with accuracy and appropriate testing. The study beautifully presents data to prove the positive correlation between cIMT and various parameters.

I have noted this is a cross-sectional study with its attached limitations. Therefore, it would be interesting to analyze the behavior of same patients over a period of time. Also, one may argue that the study involves predominantly females (83%); hence, difficulty in applying the results to males. But, RA is more prevalent in females who are traditionally known to be neglected for cardiovascular screening. Therefore, this makes the study more relevant as these females would undergo screening for subclinical atherosclerosis.

I would summarize by stating that the study adds significantly to the existing body of evidence and

highlights the need for detecting cardiovascular disease pre-clinically to direct aggressive active treatment and prevent clinical events.

*Kashif Bin Naeem
Kuwait Hospital
Dubai, United Arab Emirates*

Reply from the Author

We thank Dr. Bin Naeem for his interest in our study "Variables associated with subclinical atherosclerosis among patients with rheumatoid arthritis in the Gulf Cooperative Council Countries".¹

Despite that RA is the most common inflammatory autoimmune disease worldwide, very little known about RA in the Gulf Cooperation Council (GCC). Therefore, our study adds to our understanding of the nature of RA in the region. Our article is the first to look at the determinants of the cardiovascular disease (CVD) in RA patients as manifested by cIMT. Carotid intima media thickness is a surrogate marker for the subclinical atherosclerosis in the general population and in RA.^{4,5} Therefore, cIMT had been recommended in the EULAR recommendations for cardiovascular disease risk management in patients with RA and other forms of inflammatory joint disorders, 2015/2016 update. Where it had been recommended that "screening for asymptomatic atherosclerotic plaques by use of carotid ultrasound may be considered as part of the CVD risk evaluation in patients with RA".⁶

The increase CVD risk in RA is not fully explained by the traditional CVD risk factors.⁵ Inflammation had been found to play an elemental role in the onset, progression and complication of atherosclerosis.⁷ Inflammation work solely and synergistically to enhance the detrimental effect of the traditional CVD risk factors. Further, many factors had been emerged recently as non-traditional CVD risk factors in RA. In our study, we were able to investigate the effect of the traditional, and the non-traditional CVD risk factors on the cIMT, among RA patients. More, we investigated the role of the renal function, iron build up, and the blood hemorheology parameters.

The presence of chest pain in approximately 30% of the RA patients indicated that large proportion of RA patients had cardiac chest pain without being diagnosed with angina. Additionally, in addition to the doubling the risk of myocardial infarction (MI) and increase the risk of CVD by 30%, RA patients experience double risk for stroke. The increase CVD risk had been demonstrated at the onset of RA, and progress with

time.^{4,7} Therefore, controlling the traditional and the non-traditional CVD risk factors is important to hinder the CVD progression in RA.

We realize that the study results cannot be generalized to men due to the majority of females in our sample. This is due to the fact that RA is 3-5 times more common in females than in males at the middle age. Hormonal factors and smoking habit may contribute to this difference in RA prevalence among different gender. More studies are needed to explore the risk of the CVD among males RA patients.

Suad Hannawi

*Department-Al Baraha Hospital
Ministry of Health and Prevention
Dubai, United Arab Emirates*

ORCID ID: <https://orcid.org/0000-0002-2207-5703>

References

1. Hannawi S, Hannawi H, Alokaily F, Al Salmi I. Variables associated with subclinical atherosclerosis among RA patients of Gulf Cooperative Council countries. *Saudi Med J* 2020; 41: 128-137.
2. Greenland P, Alpert JS, Beller GA, Benjamin EJ, Budoff MJ, Fayad ZA et al. 2010 ACCF/AHA guideline for assessment of cardiovascular risk in asymptomatic adults: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *Circulation* 2010; 122: e584-e636.
3. Stein JH, Korcarz CE, Hurst RT, Lonn E, Kendall CB, Mohler ER et al. Use of carotid ultrasound to identify subclinical vascular disease and evaluate cardiovascular disease risk: a consensus statement from the American Society of Echocardiography Carotid Intima-Media Thickness Task Force. Endorsed by the Society for Vascular Medicine. *J Am Soc Echocardiogr* 2008; 21: 93-111.
4. Hannawi S, Haluska B, Marwick TH, Thomas R. Atherosclerotic disease is increased in recent-onset rheumatoid arthritis: a critical role for inflammation. *Arthritis Res Ther* 2007; 9: R116.
5. Hannawi S, AlSalmi I, Moller I, Naredo E. Uric acid is independent cardiovascular risk factor, as manifested by increased carotid intima-media thickness in rheumatoid arthritis patients. *Clin Rheumatol* 2017; 36: 1897-1902.
6. Agca R, Heslinga SC, Rollefstad S, Heslinga M, McInnes IB, Peters MJ, et al. EULAR recommendations for cardiovascular disease risk management in patients with rheumatoid arthritis and other forms of inflammatory joint disorders: 2015/2016 update. *Ann Rheum Dis* 2017; 76: p 17-28.
7. Hannawi S, Marwick TH, Thomas R. Inflammation predicts accelerated brachial arterial wall changes in patients with recent-onset rheumatoid arthritis. *Arthritis Res Ther* 2009. 11: R51.