



RHEUMATOID ARTHRITIS

RF levels predict RA risk in the general population

Rheumatoid factor (RF) is included in classification criteria for rheumatoid arthritis (RA), and the presence of this antibody is routinely tested for in the diagnosis of the disease. Although most patients with RA will eventually test positive for RF, whether levels of RF in those who do not have RA are associated with the risk of developing the disease is unclear. Research conducted as part of the Copenhagen City Heart Study has now shown that individuals in the general population who have elevated plasma levels of RF have up to a 26-fold increased risk of developing of RA long-term.

In this prospective cohort study, which included a random sample of the general population recruited using the Danish Civil Registration System, baseline plasma level of IgM RF was measured in 9,712 white Danish individuals aged 20–100 years who did not have RA at the time blood samples were obtained. The

median level of RF was 18 IU/ml and, notably, these levels were similar across age groups.

Patients were followed for up to 28 years, during which time a total of 183 individuals developed RA. For these patients, the median time to developing RA was longer in those with lower baseline levels of RF (15 years for levels <25 IU/ml, compared with 12 years for levels of 25–50 IU/ml and 7 years for levels of 50.1–100 IU/ml or >100 IU/ml).

Over the follow-up period, a doubling of RF level was associated with a 3.3-fold increase in the risk of RA (95% CI 2.7–4.0). Furthermore, the researchers noted that those individuals with RF levels above 25 IU/ml were significantly more likely to develop RA, with the highest risk associated with RF levels >100 IU/ml (multivariate adjusted hazard ratio 26, 95% CI 15–46).

The study data was also used to calculate absolute 10-year risk of

developing RA, taking into account RF as well as other variables including age, sex, and smoking status. The highest absolute 10-year risk of RA was 32%, which was found in women aged 50–69 years who were tobacco smokers and had RF levels >100 IU/ml. The lowest such risk, 0.1%, was observed in men aged ≥70 years with RF levels <25 IU/ml, regardless of smoking status.

Although the data do not provide evidence of a causal role for RF in the development of RA, the authors suggest that the findings have implications for the way RF testing is used in the identification of individuals at high-risk of developing RA.

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Original article Nielsen, S. F. *et al.* Elevated rheumatoid factor and long term risk of rheumatoid arthritis: a prospective cohort study. *BMJ* 345, e5244 (2012)