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Editorial

Psoriasis and acute coronary syndrome risk

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Psoriasis is associated with increased mortality caused primarily by cardiovascular diseases (CVD). Several systematic reviews and meta-analyses reported an association between psoriasis and CVD [1,2], highlighting an increased risk of CVD especially in those patients with severe psoriasis. Both mild and severe psoriasis are associated with an increased risk of myocardial infarction (MI) and stroke, while severe psoriasis is also associated with an increased risk of CV mortality [3]. Thus, an increased CVD risk seems to be attributed only to individuals with severe psoriasis, defined as those requiring systematic therapy or hospital admission. In addition, the relative risks of CVD were found to be highest in the younger, severe psoriasis population, while absolute risks were greatest in older individuals with severe psoriasis. However, based on these results a final conclusion about connection between psoriasis and CVD risk cannot be drawn, since the majority of studies failed to adequately adjust for the traditional risk factors [4]. A large prospective cohort study including 96,008 participants with a follow up of 18 years, has demonstrated that psoriasis is an independent predictor for non-fatal CVD among women, with especially high risk for those with longer duration of psoriasis and concomitant psoriatic arthritis [5].

On the other hand, some studies clearly negate the above-mentioned relation between psoriasis and CV risk. In a case-control, Rotterdam Study with an 11 years follow-up, the risk of CVD incident was not increased in psoriasis patients with predominantly mild disease [6] and the similar results were obtained when coronary heart disease, stroke, and heart failure were analyzed separately. In a similar cohort study with a shorter period of follow-up of 5.2 years, neither psoriasis nor severe psoriasis were associated with the short-to-medium term (over 3–5 years) risk of major CV events after adjusting for known CVD risk factors [7]. Yet, psoriasis was not proved to be a clinically relevant risk factor for ischemic heart disease hospitalizations on the population level, as was shown in a cohort study of 2.5 million Dutch residents [8].

No significant association has been reported between the risk of acute coronary syndrome (ACS) and the history of psoriasis in patients aged 75 years and older [9]. These findings are somewhat in agreement with earlier large prospective, population-based cohort studies, showing that psoriasis may confer an independent risk of MI in young patients with severe psoriasis, while the association decreases in those aged 60 or over. Although, a majority evidence in the literature suggests a strong association between psoriasis and CV risk, the results are inconsistent in elderly subjects.

A potential explanation for the weak relation of psoriasis and CVD in patients with older age, is that elderly-onset psoriasis seems to be a milder disease with distinct changes in clinical phenotypes compared with early- and middle age-onset disease [10]. In addition, elderly patients may be considered already burdened of other traditional CV risk factors, implying that the effect of psoriasis is attenuated. Negative results present in the literature may be also due to the following: a) the methodologies used to detect psoriasis varied among studies, and the diagnosis was not necessarily confirmed by dermatologists; b) the definition of severe psoriasis also varied among studies; c) the therapeutic approaches used to manage sever psoriasis were inconsistent; d) the control groups often had a large number of important missing information.

The exact mechanism by which psoriasis leads to an increased CVD risk remains unclear but may be due to abnormal function of immunological pathways, as well as cumulative, chronic inflammation. Link between psoriasis and MI may be mediated by other factors beyond inflammation: psychological stress, sedentary lifestyle, or inadequate management of CV risk factors as well as "a survivorship effect" related to less availability of the older patients due to the mortality associated with MI.

Patients with psoriasis should be educated regarding the increased risk of CVD and encouraged to aggressively address CVD risk factors. Routine screening for such factors is recommended, especially in severe psoriasis [2]. It is questionable if only stage of psoriasis or also duration, body surface area, biomarkers of systemic inflammation or their mutual and/or combination with traditional and non-traditional CV risk factors (in particular inflammatory arthritis) should be taken into account during clinical assessment and treatment of this population. Numerous confounders often remain unmeasured, and this may lead to overestimated risk assessment [7]. Treatment strategies should be chosen based on skin disease severity, but CV risk assessment is also important.

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In conclusion, the size of CVD risk directly attributable to psoriasis remains uncertain. Further research into the underlying mechanisms is warranted and may provide insights into both pathogenesis and treatment. Future long-term studies with suitable design and a large-scale cohort of subjects adequately controlled for confounding factors and above-mentioned bias are needed to clarify this association, particularly in the elderly. Also, such studies may contribute to the understanding whether aggressive treatment of severe psoriasis may affect CVD end points.

Conflict of interest

The authors report no conflict of interest. MR is currently Chief Medical and Scientific Advisor, Diabetes, Novo Nordisk Europe East and South. Yet, Novo Nordisk or other pharmaceutical companies had not been involved in the writing of the present article, which solely reports the views and opinions of the authors.

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