Covid-19 vaccination and postmenopausal bleeding

Postmenopausal bleeding must be investigated, even when it follows vaccination

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In the Spring of 2021, reports started accumulating of menstrual changes and unexpected vaginal bleeding after covid-19 vaccination. Fortunately, a wealth of data from menstrual cycle tracking apps allowed researchers to quickly show that vaccination can temporarily increase cycle length and menstrual flow, with cycles returning to normal soon after. Although postmenopausal bleeding is generally not cause for concern, in approximately 9% of cases, bleeding is a sign of endometrial cancer. For individuals who are accustomed to no longer having regular periods, both the bleeding itself and subsequent investigations to rule out cancer are a cause of substantial distress. As such, investigating whether covid-19 vaccination raises the risk of postmenopausal bleeding and, if so, why this occurs and what outcomes are expected, should be a priority.

A nationwide cohort study of the female population of Sweden, recently published in the linked paper by Ljung and colleagues, takes the first step in exploring this. The study included all women aged 12-74 years in Sweden at the start of the covid-19 vaccination campaign, except for those who were pregnant, who had a pre-existing gynaecological condition, or for whom at least three years of medical history was not available. Of almost three million participants included, 1.56 million were 45-74 years old and this subcohort was queried to identify instances in which individuals sought healthcare for postmenopausal bleeding. The risk of seeking healthcare for postmenopausal bleeding was calculated before vaccination, within seven days of vaccination, and between 8 days and 90 days after vaccination, to determine whether the risk was increased by vaccination.

After adjusting for covariates, the authors found a small increase in the risk of seeking healthcare for postmenopausal bleeding 8-90 days after the second (hazard ratio 1.14 (95% confidence interval 1.03 to 1.25)) and third (1.25 (1.04 to 1.50)) dose of covid-19 vaccine. By contrast, the authors did not find any increased risk of seeking healthcare for menstrual changes in individuals who were premenopausal, supporting previous findings that menstrual changes associated with covid-19 vaccination are small compared with normal variation and are short lived.

Covid-19 vaccines and boosters are no longer offered to most individuals younger than 50 years in the UK, and any postmenopausal bleeding truly related to vaccination is likely to be benign, further research should be done to track the outcomes of investigations in these individuals. The Swedish study examined only healthcare contacts, not the result of any investigations, but future nationwide cohort studies could provide further insights into clinical outcomes. A more comprehensive understanding of the broader effects on quality of life will also require qualitative approaches focused on ensuring that patients feel comfortable sharing their experiences.

Defining the mechanisms by which postmenopausal bleeding association with covid-19 vaccination might occur would allow us to better understand whether this side effect is a cause for concern. A subgroup analysis in the study by Ljung and colleagues indicated that all vaccine forms were associated with an increased risk of postmenopausal bleeding (although for the Moderna and AstraZeneca vaccines the estimates were imprecise), suggesting a mechanism mediated by immune response to vaccination, rather than by a specific vaccine component. This mechanism raises the possibility that postmenopausal bleeding may also occur following other vaccines, such as those for influenza and shingles—an area for further research. An earlier survey based study of an international cohort sought to identify risk factors for postmenopausal bleeding after covid-19 vaccination, finding only that Hispanic ethnicity was weakly protective. However, the small number of participants who were postmenopausal in the study (n=238) might have limited the ability to detect other informative associations.

A sharper focus is needed on menopause and perimenopause and how they interact with other aspects of health. The potential link between covid-19 vaccination and postmenopausal bleeding is only one example: a related observation is that some
people living with long covid report symptoms that are exacerbated by, and overlap with, those of perimenopause and menopause. In the UK, the new Women’s Health Strategy, along with grassroots activism, is raising public awareness in this area. Let’s ensure that research keeps pace with these efforts.

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2 Muskitta NI, Partogu Siagian NK, Rumondang A. Effect of covid-19 vaccination on menstrual pattern changes: a systematic review. Research Square [preprint]. doi: 10.21203/rs.3.rs-2222780/v1


