

# ARE WOMEN WITH PCO-LIKE OVARIES PROTECTED AGAINST CHEMOTHERAPY-INDUCED OVARIAN DAMAGES ? RESULTS OF A LONGITUDINAL STUDY IN 320 WOMEN TREATED WITH ALKYLATING REGIMENS

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## Abstract Body

Background :

Advances in cancer therapy have improved the overall survival of young patients affected by cancer, thus the side effects of these treatments on future fertility are a major concern. Anti-Mullerian hormone (AMH) has been shown to influence the degree of ovarian recovery. We aimed to compare the pattern of AMH variations, in young women treated with alkylating agent with pre-chemotherapy “PCO-like” (Polycystic Ovary) versus non “PCO-like” AMH levels.

Study design:

This prospective cohort study was carried out in the Fertility Observatory Preservation Centre of the Lille University Hospital from January 2012 to February 2022. 195 breast cancer women aged 31.4 years, and 125 hematological malignancies patients aged 24.4 years were included before undergoing an alkylating protocol. The study population was divided into two groups according to basal AMH level at time of diagnosis: PCO-like, i.e 35 pmol/L and no PCO-like. Menstrual function and AMH level variations were prospectively followed-up.

Results

Before and after adjustment for confounding variables AMH values in the PCO-like subgroups were significantly higher than AMH levels in the non-PCO-like subgroups at each follow-up time. Nevertheless the pattern of AMH variations between AMH0 and AMH12 and the sustaining phases (AMH12-24) were not significantly different between the subgroups of the two populations ( $p>0.05$ ). At the end of follow-up, 52% of PCO-like women have a low AMH level i.e. 10 pmol/L of which 3 are undetectable and 41% of which 1 is undetectable in women treated for breast and haematological cancer respectively.

Conclusion

PCO-like women maintain higher AMH levels throughout the follow-up. However, the degree of follicular depletion was not significantly different between the two subgroups with very partial recovery after chemotherapy. Fertility preservation and biological and clinical follow-up in our fertility observatory should be offered to all women whatever their basal ovarian reserve.