Secrets of poly-nuclear neutrophils

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Background: Some nuclear neutrophils contain a small chromatin mass appended to one of their nucleus lobes. To date, their nature has remained uncertain. Some published data demonstrated that the frequencies and the distribution of these appendages were influenced by sex and by many other factors such as hormones, granulocytes metabolism, cell proliferation, and age.

Objective: This blind study was designed to check whether appendages are related to sex hormones and change with menstrual cycle phases or not.

Design: Nuclear appendages were studied in ten women during different phases of menstrual cycle. A written consent was obtained from each individual. Ages of the individuals varied from 25 to 35 years old. None of them had history of malignancy, severe systemic infection, pregnancy, recent transfusions, malnutrition, consumption of oral contraceptives or any other medication that affects the menstrual cycle. Peripheral blood samples were collected into EDTA tubes at different phases of the menstrual cycle (1st day, 7th, 14th and the 21st). At the time blood samples were taken, whole blood count was studied. Blood smears were preformed from each tube, stained then observed under immersion oil light microscope. Two hundred poly-nuclear neutrophils were examined for nuclear appendages for each sample and classified into four groups: neutrophils with form-A (drumstick), form-B (sessile nodules) or form-C appendages (tag and hook) and neutrophils without any appendages.

Results: The difference (A-C) was calculated for each slide. There were significant variations of the (A-C) during the menstrual cycle for each individual but these variations were not homogeneous from a woman to another.

Biography
Affa Adda graduated as Medical Doctor in 2005, completed a residency in Hemobiology and Transfusion Medicine in 2010 and is an Assistant Professor at the University Hospital of Oran, Algeria. She is skilled in the management of all forms of blood diseases, with particular interest in hemoglobin diseases which are an emerging global health burden. She has published and is a co-author in few medical journals.

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