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"NK cells in uterine cancers"

Uterine cancer, which includes endometrial cancer (EC) and cervical cancer (CC), is one of the most prevalent gynecologic malignancies amongst women. It is the fourth most common cancer for women in the United States, with more than 90% of uterine cancers occurring in the endometrium. The uterus is a mucosal immune organ that supports embryonic and fetal development. However, its immune microenvironment is continuously altered depending on female sex hormones status, which varies with menstrual cycle and pregnancy. While pregnancy is considered a controlled stage of inflammation, this is not the case in carcinogenesis.

This review paper focuses on NK cells and their role in uterine cancer. Since NK cells comprise one of several innate immune cells migrating at the inflammatory site, it becomes crucial to understand their role in uterine cancer pathogenesis and design NK cell-based immunotherapies. Furthermore, despite having functional and morphological differences from circulating NK cells, uterine NK (uNK) cells mirror conventional NK cells in that they develop into trained innate immune memory cells. Hence, understanding NK cells in the context of uterine cancers presents a tremendous opportunity to devise NK cell-based immunotherapeutic approaches.