



Gynaecological Oncology: Challenges for the 21st Century

Dear Colleagues,

New imaging technologies, the application of diagnostic immunohistochemistry in histopathology, and the implementation of laparoscopic and robotic techniques in gynaecological surgery have led to excellent results in the diagnosis and intervention of gynaecological oncology. Furthermore, next-generation sequencing and bioinformatics have made it possible to simultaneously screen for the presence of mutations in hundreds of oncogenes. This can be done using in-depth solid biopsy, liquid biopsy or tumor samples from surgical specimens. Some mutated clones can be targeted by specific drugs, giving rise to the concept of precision oncology. In practice, however, more than one oncogenic mutation is nearly always found in high-grade aggressive tumor samples, meaning that full eradication is still a utopia. This is because effective drugs against all mutated oncogenes have yet to be developed. Moreover, a cure would require the co-administration of multiple drugs that may not be tolerated by the patient due to important side-effects. The solution to this problem currently represents one of the greatest challenges in gynaecological oncology. Another major challenge is the prevention of gynecological cancers associated with the Human Papilloma Virus. This can be achieved through the global expansion of effective and safe vaccination programs, with ready access even in low-income nations. In line with the 2030 Agenda, the final challenge is to significantly reduce the impact of pollution and endocrine disruptors on gynaecological and breast cancers by moving to sustainable development. The aim of this Special Issue is therefore to present expert contributions that aim to solve these major challenges in gynaecological oncology.

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