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The complex interactions between the tumor microenvironment and prostate and oropharyngeal cancer

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Stellingen behorend bij het proefschrift getiteld

THE COMPLEX INTERACTIONS BETWEEN THE TUMOR MICROENVIRONMENT AND PROSTATE- AND OROPHARYNGEAL CANCER

1. The tumor microenvironment is a dynamic milieu of complex interactions between cellular and non-cellular components that can strongly affect tumor progression and therapy response (this thesis).
2. The tumor-associated macrophages represent a dominant population of stromal cells present in the microenvironment of PCa and OPSCC. Exploring their phenotypic diversity is crucial in order to understand their relevance in clinical outcome (this thesis).
3. Androgen receptor activity is divergent in different stromal cells, therefore, the cell-specific role of this receptor should be explored in order to predict hormone therapy response (this thesis).
4. Profiling single-cell transcriptomics of macrophages from human prostate cancer samples is a strategy to design gene classifiers for patient prognostication (this thesis).
5. The efficacy of therapeutic targeting of macrophages in cancer is associated with the suppressive capacity of these cells, driven by microenvironmental cues such as hypoxia and fibrosis (DeNardo, D.G. and B. Ruffell, *Macrophages as regulators of tumour immunity and immunotherapy*. Nat Rev Immunol, 2019).
6. There are three main limitations of the canonical M1 and M2 macrophage differentiation: first, the source and context of the external stimuli are ignored; second, the M1 and M2 stimuli do not exist in tissues alone; and, third, macrophages may not form clear-cut activation subsets nor expand clonally (Fernando O Martinez and Siamon Gordon, F1000 Prime Rep, 2014).
7. Loss of AR expression in stromal cells may be crucial for development of resistance to androgen ablation therapy for prostate cancer, and from a translational perspective, it generates the need to re-examine the current therapeutic options (Mandeep Singh et al., AM J Pathol, 2014).
8. Advances and the perspective of combining genomically-targeted agents and immune checkpoint therapies, are finally delivering curative therapies to cancer patients (Padmanee Sharma and James P. Allison, Cell, 2018)
9. ‘Certain people – men, of course – discouraged me, saying [science] was not a good career for women. That pushed me even more to persevere’ (Francoise Barre, 2008). Being a woman is hard; being a woman in science is even harder (Cioni, 2021).
10. ‘Don’t let anyone rob you of your imagination, your creativity, or your curiosity. It’s your place in the world; it’s your life. Go on and do all you can with it, and make it the life you want to live’ (Mae Jemison, 1991). It’s me in this world and I’ll do my best to achieve all my goals (Cioni, 2021).
11. Courage is like — it’s a habitus, a habit, a virtue: you get it by courageous acts. It’s like you learn to swim by swimming. You learn courage by couraging (Brené Brown, 2016). Facing your weaknesses makes you courageous (Cioni, 2021)

Bianca Cioni