

Integrating translational research and clinical practice to refine risk stratification in renal cell carcinoma

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Propositions

accompanying this thesis

Integrating translational research and clinical practice to refine risk stratification in renal cell carcinoma: the value of DNA methylation markers

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Maastricht 12 December 2024

1. Promoter methylation of *GREM1*, *GATA*, *LAD1*, *NEURL* and *NEFH* complements the prognostic value of current prognostic models such as the International Society of Urological Pathology (ISUP) for clear cell renal cell carcinoma (ccRCC) patients (this thesis).
2. To strengthen the level of evidence for DNA methylation markers, systematic reviews should be utilized to identify knowledge gaps and guide the design of new studies that directly address these gaps (this thesis).
3. Before RCC prognostic biomarkers models can be translated into clinical practice, a re-evaluation using the latest clinical updates, such as the current WHO/ISUP standards, is crucial to guarantee their ongoing relevance (this thesis).
4. To reduce technical heterogeneity in biomarkers studies, researchers should justify their choice of DNA methylation assays and sample types (this thesis).
5. Scientific journals and funding organizations must require researchers to critically analyze existing data through systematic reviews, scoping reviews or meta-analyses, to ensure efficient use of existing data (impact paragraph).
6. To increase the likelihood of clinical translation, clinicians should be engaged early in biomarker research to ensure the biomarkers address real-world patient needs and to help identify potential challenges in clinical implementation.
7. To maximize the use of routinely collected medical data in biomedical research, healthcare IT systems should be designed with research needs in mind, such as standardized registration of patient characteristics and automated extraction of anonymized data or images.
8. To enhance the impact of biomarker research, it is crucial to ensure the inclusion of currently underrepresented groups such as those defined by ethnicity.
9. Ambitions are the seeds of achievements, but hard work and perseverance can nurture them to bloom into success.
10. Practicing yoga and doing a PhD have a lot in common, both require a long-term commitment, resilience and a willingness to embrace challenges.