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ERA Long-Term Research Fellowship Project

ONCO-ERA

Project's key info

Title of the project	A(K)I for K
Working Group involved in the project	ONCO-ERA
Principal Investigator(s) of the project	Corinne ISNARD BAGNIS
Duration	12 months
Fellowship Grant	34.495,00 €
Start of the fellowship	Within 6 months after notification of the grant award to the fellow

Receiving Institute

Name of receiving institute	APHP Sorbonne University
Supervisor's name	Corinne ISNARD BAGNIS
Supervisor's e-mail address	Corinne.Bagnis@aphp.fr

Project's detailed description

Project description
Acute kidney injury (AKI) is a frequent and serious complication in patients with cancer, often triggered or aggravated by oncological treatments. AKI significantly affects patients' quality of life, treatment continuity, and overall survival. Despite advances in cancer therapy, predicting and preventing AKI remains a major clinical challenge, underscoring the need for innovative and data-driven approaches. This project aims to improve the understanding, prediction, and prevention of AKI in cancer patients by leveraging the unique resources of the Health Data Warehouse of the Assistance Publique des Hôpitaux de Paris (EDS-AP-HP). This large-scale database includes comprehensive cancer diagnoses and treatment data, longitudinal biological measurements such as serum creatinine, and reimbursement information, covering approximately 200,000 cancer patients. Its breadth and depth make it uniquely suited to studying kidney injury in the oncological setting. Using these extensive real-world data, the project will develop a predictive model and risk score for AKI in cancer patients. The model will account for inter- and intra-individual variability, enabling personalised risk assessment and supporting adaptive clinical decision-making. By identifying patients at high risk of AKI, the tool aims to inform treatment choices and preventive strategies, ultimately reducing renal toxicity and improving patient outcomes. The project is embedded within a broader clinical initiative of the Nephrology Department focused on preventing kidney toxicity in cancer care, in collaboration with the University Hospital Federation S2C-HOPE. By integrating clinical expertise, experimental research, and advanced data modelling, this work seeks to optimise care pathways and enhance renal safety in oncology practice.
Goals of the project

The project aims at:

- Developing a risk score for the occurrence of acute kidney injury (AKI) in patients receiving anti-cancer therapies, using large-scale real-world data from the AP-HP Health Data Warehouse.
- Identifying and characterise risk and protective factors associated with AKI during cancer treatment in order to prioritise prevention strategies.
- Enabling personalised clinical decision-making by proposing adapted treatment and preventive approaches for patients at high risk of AKI.
- Stratifying cancer patients according to demographic characteristics, comorbidities, cancer type, and treatment modality, and define clinically relevant risk subgroups.
- Validating the predictive performance, reliability, and clinical utility of the AKI risk score through prospective testing and real-world clinical implementation.
- Supporting the integration of the risk score into routine oncology and nephrology practice to improve patient outcomes and reduce renal toxicity associated with cancer treatments.

Qualifications and/or expertise required to the fellow

Business and/or technical skills: Data sciences in health Natural Language Processing (in health) SQL Language Python and R programming;
"Transversal" skills: A good understanding of the medical field is required;
Project management in a multidisciplinary context