

RESEARCH PROJECT

Name of Institution and Department:

Division of Radiology, European Institute of Oncology (IEO IRCCS)

Link to Website:

www.ieu.it

City and Country of Institution:

Milan, Italy

RESEARCH GROUP

Brief Description of the Research Group and Its Mission

The Division of Radiology is dedicated to oncologic imaging, with a particular focus on cancer screening, diagnosis, staging, treatment response assessment, and follow-up. The division has extensive expertise in advanced imaging techniques, including Computed Tomography (CT), CT Enterography, Magnetic Resonance Imaging (MRI), Whole-Body MRI, and MR Enterography.

TITLE OF THE PROPOSED RESEARCH PROJECT

Diagnostic yield of Whole-Body MRI for early multicancer detection in adults with Cancer Predisposition Syndromes

OBJECTIVES

- To retrospectively analyse more than seven years of institutional surveillance data from adults with cancer predisposition syndromes (CPS) who underwent whole-body MRI (WB-MRI) for early cancer detection. The cohort includes individuals with Li-Fraumeni syndrome, neurofibromatosis and schwannomatosis, pheochromocytoma–paraganglioma syndromes, and DICER1 syndrome.
- To determine the prevalence and incidence of malignancies detected by WB-MRI at baseline and during annual surveillance in our single-centre cohort of adult CPS carriers, and to compare these findings with published data from the current literature.
- To gain practical expertise in the application of the Oncologically Relevant Findings Reporting and Data System (ONCO-RADS), including WB-MRI protocol optimisation, image interpretation, lesion categorisation, and structured reporting.
- To characterise the spectrum of cancers identified through WB-MRI surveillance and to evaluate the frequency and nature of benign, indeterminate (“borderline”), and false-positive findings, generating practical teaching points and clinically relevant insights for radiologists involved in hereditary cancer screening programmes.

APPLICANT’S DUTIES

- Participation in the scientific activities of the project, including the preparation of abstracts, conference presentations, and scientific publications.

- Participation in scientific meetings, educational sessions, and case review conferences.
- Contribution to data collection and research-related activities under the supervision of the project team.

APPLICANT'S BENEFITS

- Access to the facilities, imaging platforms, and research infrastructure of the Division of Radiology for research and education purposes.
- Participation in multidisciplinary clinical and research activities focused on oncologic imaging.
- Access to the institutional cafeteria and common facilities.
- Opportunity to contribute to scientific publications and presentations at national and international conferences.

PROJECT TEAM

Project Leader:

Prof. Giuseppe Petralia, MD

Project Members:

Dr. Fabio Zugni, MD