KONTOVOUNISIOS Christos EOI 2022 – Imperial

Project title: Neuroendocrine markers in colorectal adenocarcinomas

Project Summary:

Colorectal cancer (CRC) is one of the commonest cancers in Western society with a poor prognosis in patients with advanced disease. Targeted therapy is of increasing interest and already, targeted hormone treatment for breast and prostate cancer has improved survival. Gastrointestinal hormones are peptides released from neuroendocrine cells in the digestive tract. More than 30 hormone genes are currently known to be expressed in the gut, which makes it the largest hormone-producing organ in the body. Modern biology makes it feasible to conceive the hormones under five headings: The structural homology groups a majority of the hormones into nine families, each of which is assumed to originate from one ancestral gene. The individual hormone gene often has multiple phenotypes due to alternative splicing, tandem organization or differentiated posttranslational maturation of the prohormone. By a combination of these mechanisms, more than 100 different hormonally active peptides are released from the gut. Compared with neuroendocrine cancers, little investigation is carried out on the relationship of neuroendocrine cells and their hormone products in non- neuroendocrine cancers, especially in the common adenocarcinoma cases. Using hormones as prognostic and therapeutic markers in CRC is still in the preliminary stages for only a fraction of the hormones affecting the GIT. In light of the increasing interest in tailoring treatment strategies, hormones are an important area of focus in the future of CRC management.

Supervisory Team:

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- Professor ParisTekkis, Professor of Colorectal Surgery**,** Faculty of Medicine, Department of Surgery & Cancer, Imperial College London.

- Dr Irene Chong, Institute of Cancer Research, and Consultant Clinical Oncologist at The Royal Marsden NHS Foundation Trust.

Clinical Specialities: Colorectal, Genetics