**UMR Inserm 1240 IMoST: Molecular Imaging and Theranostic Strategies, UCA, Dr Elisabeth Miot-Noirault.**

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**Role of the immune infiltrate in the response to treatment in head and neck cancers.**

Immunotherapy clinical trials have reported a benefit in only 10-20% of patients with head and neck cancers. A better understanding of the mechanisms leading to an anti-tumor immune response has led to a major interest in characterizing this response within the tumor prior to any treatment. The need to understand more precisely how the tumor immune infiltrate functions is major in view of the number of clinical studies combining immunotherapy with standard treatment and the diversity of clinical responses observed. Although several studies have begun to characterize the immune infiltrate in head and neck cancers, much remains to be explored. In order to characterize the immune infiltrate in head and neck cancers, we will : (i) explore the expression of a panel of genes involved in tumor immunity using an innovative approach (Nanostring) and (ii) perform a quantitative and qualitative analysis of the immune infiltrate by immunohistochemistry. The longer-term challenge is to be able to select patients who could benefit from a combination of immunomodulators and radiotherapy. This innovative project is notably supported by Emergence I-Site CAP2025 2019 (UCA) funding.

Ou, D. et al. Clinical relevance of tumor infiltrating lymphocytes, PD-L1 expression and correlation with HPV/p16 in head and neck cancer treated with bio- or chemo-radiotherapy. Oncoimmunology 2017 Jul 5;6(9):e1341030.