**Presentation card**

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Carney complex ovarian lesions, PKA and plasticity of ovarian identity

In the gonads, steroid hormones biosynthesis is stimulated by cAMP / PKA signaling relaying the control of the gonadotropic hormones FSH / LH. cAMP binding to the regulatory subunits (R) dissociates them from the catalytic subunits of PKA which are in turn activated and lead to stimulation of steroidogenesis. Inactivating mutations in the PRKAR1A gene encoding the R1A isoform results in constitutive activity of PKA and are responsible for a rare autosomal dominant disease, the Carney complex (CNC). CNC is a multineoplastic syndrome predisposing to cardiac myxomas and endocrine tumors. CNC ovarian lesions (70% of patients), are very poorly characterized, and result mostly in cystic lesions occasionally associated with androgens hyperproductions and with increased occurrence of ovarian cancers. Based on human biopsies and murine genetic models reproducing the mutation and replicating the human ovarian phenotype, the project aims to identify the molecular circuits disturbed in the ovarian pathogenesis of the CNC by specifying: -1) the origin and the role of androgenic excess in the appearance of lesions and -2) the proliferative circuits responsible for ovarian tumorigenesis and its cellular origin.

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Batisse-Lignier M et al (2017) P53/Rb inhibition induces metastatic adrenocortical carcinomas in a preclinical transgenic model. Oncogene 36(31):4445-4456