

## **PROJECT REVIEW**

### ***"Effect of tea consumption on the steroid profile in healthy volunteers"***

**Dr. R. Ventura, Pr. J. Segura, Pr. R. de la Torre** (Fundació Institut Mar d'Investigacions Mèdiques (IMIM))

The misuse of testosterone and other endogenous anabolic androgenic steroids is detected through alterations in the urinary steroid profile. The steroid profile is composed of concentrations and ratios of endogenous steroid hormones, their precursors and metabolites, and it is measured in the glucuronide metabolic fraction. Glucuronidation of testosterone and other androgens is catalyzed by UDP-glucuronosyltransferases (UGTs). Green and white tea extracts inhibit the isoenzyme UGT2B17 in "in vitro" studies and, therefore, glucuronidation of testosterone and other androgens. Due to structural similarities, it is possible that tea extracts also alter the activity of other isoenzymes involved in the glucuronidation of androgens.

Tea is the most widely consumed beverage in the world next to water and, for this reason, the relevance of the inhibition of UGT isoenzymes by tea constituents in the "in vivo" metabolism of all androgens included in the steroid profile deserves to be studied. The consumption of tea may produce alterations in the steroid profile leading to misinterpretations on the longitudinal studies and/or masking the exogenous administration of some endogenous steroids.

The aim of the present research project is to investigate the effect of green and white tea on the urinary steroid profile in healthy volunteers. The effect of an acute exposition to one of the main flavonoids of tea, epigallocatechin-3-gallate, and the effect of regular tea consumption on the steroid profile will be evaluated in Caucasian population.