Dr Georges MOUTON MD

Functional Medicine

TWEET GM #33

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Title | Created

CONTROVERSY AROUND DIO2 POLYMORPHISM RELEVANCE!

DIO2 gene codes for protein deiodinase 2, the enzyme in charge of critical conversion from thyroid prohormones T4 into active thyroid hormones T3.

Given the paramount importance of thyroid function demonstrated by the presence of specific receptors to T3 in virtually all cells nucleus throughout human body, we should not be surprised that its conversion from inactive T4 shows strongly regulated. A well-known polymorphism, i.e. a genomic setting that slows down the enzymatic activity, affects DIO2 but its clinical pertinence has been disputed. I personally find extremely useful from the clinician point of view to determine which patients present either TA or AA genotypes, respectively heterozygous variant and homozygous variant, as it seems quite obvious to me that AA genotypes struggle to synthesize T3.

I can easily acknowledge the difference between clinical perceptions from a practitioner who integrates multiple biological findings and clinical data, and large scale epidemiological studies that should involve huge numbers of patients to reach significance. We have posted QUOTE GM #33 today, which you will hopefully read. Professor BIANCO, former president of The American Thyroid Association, stubbornly researches DIO2 polymorphism.

Slowly but surely, he promotes the concept of "*customized treatment of hypothyroidism*" based on DIO2 genotypes, suggesting that variant cases tend to benefit from adding T3 to classic T4 treatments of hypothyroidism.