GENETICS AND GENODERMATOSES

LET'S REPURPOSE DRUGS WITH OMICS LIKE TECHNOLOGY!

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Drug repurposing, new therapeutic indication for a well-known drug is very common in Dermatology practice. An hypertensive drug, minoxidil, has begun to be prescribed topically for androgenetic alopecia, topical/systemic propronalol, a beta blocker has also been used for infantile hemangioma and systemic lipid lowering drug for genetic cholesterol deposit disorder has been tried after clinical observations and simple laboratory results.1,2 Moreover, trying to develop a new drug is both more money and time consuming with higher failure risk due to safety or toxicity problems than repurposing a drug established with safety profile.3

As there is no spesific treatment or cure for many dermatological diseases, we, clinicians generally try to manage the present manifestations, follow-up for the future manifestations or coincidences and again try to manage them with or without other specialties. For this reason, we need alternative approaches. Omics technologies like transcriptomic, proteomic, metabolomic analyses (see in presentation) should be performed for revealing not only disease pathogenesis pathways but also therapeutic target candidates.4 The study of Bruckner-Tuderman et al5 about Epidermolysis Bullosa Dystrophica, one of the most devastating genetic diseases,is a great example of drug repurposing efforts.

Repurposing a drug needs not only diverse innovative methods but also diverse collaborations and it should be kept in mind that clinical phase III and IV studies have to be performed due to different disease mechanisms and drug interactions.