Patients with vitiligo are immune against skin malignancies and infections

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Autoimmune diseases like pemphigus and lupus erythematosus are protective against skin tumors and infections although they are on prolonged drug induced immunosuppression and this is in contrast with kidney transplant patients, who are highly liable for skin malignancies like basal and squamous cell carcinomas and infections like bacterial, viral and fungal. This new hypothesis has encouraged us to go further and test this hypothesis on other autoimmune diseases like vitiligo. And from our daily clinical practice; we observed that patients with universal vitiligo have no freckles and nevi and no skin cancers, melanoma or Kaposi’s sarcoma. These observations have supported by many studies that have carried out in our department. It has been found that P53 is high in vitiliginous areas when compared with normal adjacent skin and no increase in skin cancers. While in another studies, there are low frequency of infections, photodermatoses and skin tumors in patients with vitiligo compared with patients with kidney transplants. Also patients with severe vitiligo especially universal type have lower frequency of skin tumors and infections when compared with patients with mild vitiligo and control with apparently healthy individuals. The etiology behind these finding is difficult to elucidate but we can speculate that the high P53 in vitiligo skin and the possibility of more effective DNA repair of solar damage by vitiligo skin are responsible for this protection. While the importance of depletion of melanin stores in vitiligo patients remain query and need explanation. In conclusion, patients with vitiligo like any other autoimmune diseases have protection against skin tumors, photodermatoses and infections.

Tumorigenicity assessment of cultured melanocytes in vitro and in vivo

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Vitiligo is a multi-factorial polygenic disorder with an incidence rate of 0.1-2.0% worldwide, characterized by patchy loss of pigment in the skin due to abnormal melanocyte function. Autologous cultured melanocyte transplantation is one of the most effective and safe therapeutic methods for treating vitiligo. Utilization of appropriate culture media and growth factors provide safe and efficacious system for culture of melanocytes. The aim of this study was to find the best culturing media and assess the cultured melanocytes in vitro and in vivo. The melanocytes were isolated from skin samples of 8 vitiligo patients and then cultured in MGM-M2. The best condition media was selected according to proliferation and MTT assessments. We characterized cells using immunocytochemistry with their specific antibodies. Karyotype, real time PCR and gene sequencing for detection of chromosomal instability, gene expression and mutation in important genes of melanoma in different passages (0, 1, 3, 5 & 7) were performed. The cells of different passages were injected to nude mice’s skin for tumorigenicity assessments. A375, D10 and NA8 melanoma cell lines were cultured and characterized as control group. ICC results confirmed cultured cells are melanocytes, cytogenetic analysis and real time-PCR did not show any chromosomal instability and changes gene expression. Mutation in famous genes was not observed. No detectable tumors formed. Histopathology confirmed the presence of cultured melanocyte cells were not tumorigenic. Our data show cultured melanocytes of different passages were not associated with any tumor formation in nude mice as well as in vitro results support the safety of cells for transplantation.