Regressing Melanoma

Melanoma is the fastest growing cancer currently in USA and worldwide.

Melanoma accounts for 64% of all skin cancers but only 7% of all skin cancer deaths. The risk for melanoma has steadily increased since 1935 when the risk was 1:1,500. Today one in 70 people will develop melanoma in their lifetime.

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Merkosky et al. (1984) studied the dermal toxicity (median erythema and irritation index) of skin to determine the extent of irritation of skin. Studies were conducted in juvenile Sinclair pigs. Standardized skinning and grading of erythema and irritation were conducted on the back. The skin irritation in the standard model. Other irritation tests should work equally as well.

\[ \text{Irritation} = \frac{\text{Mean Score}}{\text{Number of Animals}} \]

Merkosky et al. (1974) conducted experimental studies on evaluation of lab animals, testing of carcinogenicity and antitumor activity. Studies (1985) found that the domestic pigs were a good model in phototoxicity. Phototoxicity of skin in dogs, rabbits, and humans. These studies were conducted in juvenile Sinclair pigs. The results in the standard model were similar. Other irritation tests should work equally as well.

\[ \text{Phototoxicity} = \frac{\text{Mean Score}}{\text{Number of Animals}} \]

Wound Healing

Skin is a standard for wound healing studies for many decades, including in the dermal test system (Van der Walt et al., 2008). Because pigs have a thick skin, their large size and weight make them more appropriate for dermal studies. Pigs skin is anatomically, physiologically and immunologically similar to human skin. Pigs are sensitive to skin injury and can be used to study the effects of wound healing in a systemic, non-invasive manner. Porcine skin can be used to study dermal healing in a mouse model. The pig skin is a sensitive model for testing dermal toxicity.

\[ \text{Wound Healing} = \frac{\text{Mean Score}}{\text{Number of Animals}} \]

Dermal Toxicology

In light of the morphological and physiological similarities between human and porcine skin which excludes other animal species, the miniature pig is a preferred model to evaluate dermal safety of topical pharmaceuticals. The miniature pig is a preferred model to evaluate dermal safety of topical pharmaceuticals. The results in the standard model were similar. Other irritation tests should work equally as well.

\[ \text{Dermal Toxicology} = \frac{\text{Mean Score}}{\text{Number of Animals}} \]