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Research Details :

Research Title : *Effect of Gasoline Contact on Histological and Histochemical Structures of Guinea Pig Skin*
تأثير تلامس الغازولين على التركيب النسيجي والكيمونسيجي في جلد الخنزير الغيني

Descriptipn : Gasoline has many synonyms which include gas, petrol, and motor fuel. Gasoline is a volatile and flammable liquid. It is colorless to pale brown or pink in color with a distinctive odor. We are concerned here with using gasoline as motor fuel. Automotive gasoline is a complex mixture of relatively volatile hydrocarbons with addi-tives such as MTBE or without any other addi-tives. Some ingredients in gasoline can pass through the skin when used as a cleaner or accidentally spilled on skin or clothing. skin is of several exposure routes where by gasoline , a widely distributed environmental contaminant, so accurate prediction of its percutaneous absorption are important for risk assessment .Most gasoline-based fuels cause skin irritation and Skin toxicity by prolonged or repeated exposure. People can also be exposed when handling contaminated soil or water. Inhalation is a common route of exposure to gasoline. Generally, gasolines odor provides adequate warning of hazardous concentrations. There is no evidence that exposure to gasoline causes cancer in humans. However, long-term exposure to high levels of benzene, a component of gasoline, may increase a persons risk of leukemia. The aim of this study was to examine the effects of short-term skin exposure (direct method) and long-term skin exposure (indirect method) to gasoline on skin irritant responses and to notice any other inflammatory changes or allergies as a result of such exposure. Bigs an accepted animal model for human skin, we used in this study 85 male Hartley pigs ranging in weight from 400- to 600g. The area of exposure were located on the hairless back of the pigs. Gasoline was applied for 7-14-21 days successively to a (3× 4cm) skin-exposure area. Skin absorption of gasoline was examined by direct exposure in lab and indirect exposure at a fuel station. By using the direct exposure, pigs were exposed to gasoline topically twice a day. By using indirect exposure, the animals were exposed to inhalation of gasoline vapors. Pathological changes in the skin following gasoline direct exposure were evaluated histologically. Increased numbers of granulocytes were observed infiltrating the skin after 7-14-21 days. Exposure to gasoline results in a local inflammatory response, which can be detected by changes in and histological parameters. showed erythema, ulceration, and other skin allergies were seen after repeated exposure to gasoline. Other aspects of dermatitis were also seen such as epidermal thickness, hyperkeratosis,