Biocompatibility Assessments of Surgical sutures: Intracutaneous Reactivity Test in New Zealand White Rabbits

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Abstract: Surgical suture is a medical device used to hold tissues together after an injury or surgery. Application generally involves using a needle with an attached length of thread. The aim of the study was to evaluate local irritant effects to rabbit skin following a single application of test samples of surgical suture. The polar and nonpolar extracts were prepared by using saline solution and olive oil, respectively, after sinking the materials tested (2.0 g) in 10 ml of the corresponding liquid. Incubation was carried out at the temperature of 37 °C for 72 h. The saline solution and pure olive oil were used as negative control samples and were incubated under the same conditions as above. Assessments of the extracts from each material were conducted on 3 albino rabbits of the New Zealand breed. On the back of each animal, 5 intracutaneous injections of the extract tested and 5 injections of the control solution, each of 0.2 ml, were carried out. The degree of irritation was scored at 4, 24, 48, 72 hours after injection and no skin changes were found. The intracutaneous irritation index (III) was calculated The experimental procedure was conducted according to ISO10993-10

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