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ANIMAL MODEL OF CONTINUOUS PERITONEAL LAVAGE ASSOCIATED WITH VACUUM LAPAROSTOMY

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Treatment of diffuse peritonitis remains a challenge. With the advent of vacuum therapy, the use of laparostomy has gained attraction. However maintaining a peritoneal lavage is difficult and has controversial results. In this experiment we developed a new model of continuous peritoneal lavage taking advantage of the features of the vacuum laparostomy.

Eight pigs were submitted to laparotomy through which a multi-perforated tube was placed along flanks and exteriorised in the lower quadrants. A vacuum dressing was placed and negative pressure was maintained. The pigs were divided into 2 groups: A group of four animals received a Peritoneal Dialysis Solution (PDS) and the other group received Saline Solution (SS). To assess the system's efficiency in reach abdominal spaces and recesses, solution with carbon particles in suspension diluted was infused into the abdominal cavity in all pigs, this was followed by computerized tomography images. To evaluate the efficiency of the intra-abdominal fluid clearance, an spectrophotometry analysis of carbon particles were performed.

Computerized tomography after fluid infusion showed that this method is able to occupy all intra-abdominal spaces and recesses. It should also an appropriate clearance of abdominal fluid with progressive removal of carbon particles. Dressing integrity was not compromised. There were no leaks or blockage. Almost solution infused was reabsorbed. Hemodynamic and biochemical parameters remained within normal limits when DS was used. This was not achieved with SS. This model of continuous peritoneal lavage is technically feasible, maintain physiological parameters within the normal range when PDS is used.

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THE EFFECT OF COATED MICROBIAL CELLULOSE WITH IRANIAN HONEY FOR APPLYING AS A WOUND DRESSING

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Microbial cellulose as a valuable biopolymer is defined in wound care field. Many researches have been done on its application as a wound dressing and modification the characteristics. In this regard, this research attempt to make wound care with an appropriate properties by using Iranian natural honey and coating of purified nano microbial cellulose pellicle. In order to better identification of honey behavior, some parameters such as brix, hydrogen peroxide, pH of honey and also its antimicrobial characteristic were evaluated. Coated specimen were assessed by water absorption, droplet and sinking time tests. SEM was used for investigating the morphology of samples. The obtained result indicated that treated samples have an antimicrobial properties and also its sinking time and droplet which are significant parameters for absorbing exudate and keeping moisture in wound's environment is improved about 40% and 120 times respectively. Therefore due to biodegradability of honey and microbial cellulose, this compound can be applied as a modern wound dressing.

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