

ISSN 0974-3618 (Print)
0974-360X (Online)

www.rjptonline.org



RESEARCH ARTICLE

Comparing Intraperitoneal Adhesion by various Lipid compounds in a Rat Model

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ABSTRACT:

Peritoneal adhesion is a common post-surgical complication, and various methods have been investigated in order to reduce its occurrence. Aim of this study was to explore some of the locally available substances as possible anti peritoneal adhesion agents using mouse model. A total of 32 male Sprague Dawley rats were randomly divided into five groups (control group, auto-cross-linked polysaccharide hyaluronan-based gel rice bran oil, sea cucumber water and fish oil) and the tested agents were introduced into the peritoneum, following laparotomy and the creation of defect was made on left paracolic gutter to facilitate adhesion formation. Fourteen days later the rats were re-operated and the grades of adhesions were recorded. Least adhesion score was noted in group treated with sea cucumber and the test groups treated with rice bran oil and fish oil had the worst adhesion score when compared to the control. Sea cucumber was observed to have the least adhesion score, which could be attributed to its strong healing properties. Rice bran oil and fish oil were found to have the worst adhesion score, indicating that they may have potential to induce adhesion when applied externally. This study provides insight into the various methods that can be used to reduce the formation of peritoneal adhesions. The use of these substances as anti-adhesion agents presents an innovative perspective in the ongoing efforts to mitigate post-surgical complications.

KEYWORDS: Fish oil, Peritoneal adhesion, Rice bran oil, Sea cucumber water, Wound healing.

INTRODUCTION:

The repair of damaged tissue (wounds) is a critical process that is essential to life. A biological process called wound healing is often brought up by the development of scar tissue¹. It is inevitable for the basis of all surgical manipulations. Wound remodelling, which includes rearranging new collagen fibres to create a more arranged lattice structure that gradually increases wound tensile strength, is the last stage of wound healing². However, treatment through immunosuppressant, cytotoxins and non-steroidal antiinflammatory drugs in other ways may suppress the wound healing³.

Received on 05.04.2023 Modified on 09.08.2023
Accepted on 14.11.2023 © RJPT All right reserved
Research J. Pharm. and Tech 2024; 17(6):2783-2787.
DOI: 10.52711/0974-360X.2024.00437