The pharmacokinetics of a fibrin adhesive agent applied to the rat lung. [Japanese]

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Abstract:

PURPOSE: Although fibrin adhesive agents are frequently applied in the clinical setting, their pharmacokinetics in vivo remain to be clarified. We examined the pharmacokinetics of a fibrin adhesive agent applied to the rat lung. MATERIAL AND METHODS: Male Sprague Dawley rats were used. Under general anesthesia, left thoracotomy was performed, and the left lung was incised about 1 cm length and 1 mm depth. This incision was sutured with 9-0 nylon, and a fibrin adhesive agent containing 125I-labeled fibrinogen was applied. On days 1, 3, 7 and 14 after the operation, the left lung, right lung, liver and kidneys were collected. The tissue distribution of radioactivity was examined by determining the 125I levels in each organ as well as calculating the tissue levels of radioactivity. RESULTS: The tissue distribution of radioactivity in the left lung was significantly higher than those in other organs on days 1 and 3. The tissue levels of radioactivity in the left lung was significantly higher than those in other organs on days 1, 3 and 7. Each value rapidly decreased after day 7. CONCLUSION: A fibrin adhesive agent applied to the lung significantly remained at a high level through the inflammatory and proliferative phases followed by a prompt decrease before the phase of cicatrization. Therefore it is considered that a fibrin adhesive agent applied to the lung is satisfactory for the healing of wounds.