

1% Sodium hyaluronate 溶液 (SI-4402) の 生殖・発生毒性試験

1. ラットにおける妊娠前および 妊娠初期皮下投与試験

服部 充晴, 井上 重美, 小椋 英博, 片野 拓
磯和 弘一, 駒井 義生*, 高橋 響, 宮内 聡**

Reproductive and Developmental Toxicity Study of a 1 Per cent Solution of Sodium hyaluronate (SI-4402)

1. Fertility Study in Rats by Subcutaneous Administration

Mitsuharu Hattori, Shigemi Inoue, Hidehiro Ogura,
Taku Katano, Koichi Isowa, Yoshio Komai*,
Toyomi Takahashi and Satoshi Miyauchi**

(*JBC Inc., 52 Fukue, Kaizu-cho, Kaizu-gun, Gifu 503-06, Japan

**Tokyo Research Institute, Seikagaku Corporation, 3-1253
Tateno, Higashi-Yamato, Tokyo 207, Japan)

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SI-4402 is a 1 per cent solution of sodium hyaluronate (Na-HA) in phosphate-buffered physiological saline. This solution was injected subcutaneously at dose levels of 1, 2 and 4 ml/kg/day (10, 20 and 40 mg Na-HA/kg/day) to male rats prior to and through the mating period and to female rats during early pregnant stages, and its effect on parent animals and fetuses was investigated. Effect on parent animals: Test substance-like contents were found to remain at the injection site in the males of the 2 ml/kg (20 mg Na-HA/kg) group and in both sexes of the 4 ml/kg (40 mg Na-HA/kg) group, however, SI-4402 had no effect on the estrous cycle, copulation, conception, ovulation or implantation. Effect on fetuses: SI-4402 had no effect on the viability or development of the embryos or fetuses, and it had no teratogenic effect on the fetuses. From the above results, the no-effect dose level of the SI-4402 in this study is estimated to be 4 ml/kg/day (40 mg Na-HA/kg/day) in regard to general appearance and reproductive performance of parent animals, and for their embryos and fetuses.

Key words: 1% Sodium hyaluronate solution/Fertility study/(rat).

結 言

1% sodium hyaluronate 溶液 (SI-4402) は, 全層角膜移植手術や眼内レンズ挿入術などの前眼部手術において, 前房深度を維持し, 眼内組織を保護するための手術補助剤として開発中の薬剤である。今回, 著者

らは, 本医薬品開発における安全性試験の一環として, SI-4402 のラットにおける妊娠前および妊娠初期皮下投与試験を実施したので, その結果を報告する。

実験材料および方法

1. 被験物質

SI-4402 は, 分子量約 200 万の sodium hyaluronate (Na-HA) (FIG 1) を 1% (W/V) の濃度で, phosphate buffered saline に溶解した無色透明, 無味無臭,

* 岐阜県海津郡海津町福江 52 (〒503-06)
株式会社 日本生物化学センター

** 東京都東大和市立野 3-1253 (〒207)
生化学工業株式会社 東京研究所