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Biodegradable nasal packing as a carrier for delivering therapeutic molecules in endoscopic sinus surgery

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Statement of the Problem: In addition to hemostatic and stabilization role, the biodegradable nasal packing can be used as a carrier for applying local active agent. The purpose of the study was to compare the effects of usage as biodegradable synthetic polyurethane foam (naso-pore) soaked with local active agent (solution of antibiotic, steroid or both) to the same foam soaked with saline.

Methodology: A prospective, double-blind, randomized trial of 120 adults with chronic rhinosinusitis undergoing bilateral FESS was enrolled. In all cases, a CT scans were done and Lund-Mackay score were calculated. The patients were randomized and blinded to receive naso-pore soaked with antibiotic (40 persons), steroid (40 persons) or solution of both (40 persons) on one side and naso-pore soaked with saline solution on the other. Patients completed a questionnaire during their postoperative visits at 2, 10, 30, 90 and 180 days after surgery. Patients were asked to complete subjective score of the level of pain, discomfort of packing: Pressure, nose blockade and headache. The presence of synechia, infection and relapse of polyposis was noted and recorded with the endoscope on both sides at 10, 30, 90 and 180 days after surgery.

Findings: The significant differences were found between the groups in Lund-Kennedy score before and after the surgery. Slight difference, better for local active agents, was observed in discomfort level and endoscopic findings.

Conclusion & Significance: Application of biodegradable nasal packing as a carrier for applying therapeutic molecules in sino-nasal surgery brings appreciable effects in healing process and patient comfort.

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