

PERBANDINGAN PENGARUH JAHITAN *CONTINUOUS LARGE STITCH* DAN *SMALL STITCH* DENGAN BENANG NYLON TERHADAP EKSPRESI *TRANSFORMING GROWTH FACTOR BETA* PADA GARIS INSISI KULIT ABDOMEN TIKUS ALBINO GALUR WISTAR (*Rattus norvegicus*)

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Latar Belakang: Infeksi luka operasi merupakan salah satu komplikasi pascaoperasi yang paling umum terjadi, dapat meningkatkan morbiditas, mortalitas dan biaya pengobatan. Metode penutupan kulit abdomen merupakan aspek penting dari penutupan insisi yang efektif, selain pilihan materi untuk menjahit. TGF- β memiliki peran penting dalam proses penyembuhan luka kulit. Teknik yang digunakan untuk penutupan kulit mempengaruhi kualitas hasil luka.

Tujuan: Untuk membandingkan pengaruh *large stitch* dan *small stitch* pada penutupan kulit abdomen.

Metode: Dua puluh tikus digunakan pada dua kelompok. Kelompok *small stitch* dimana jahitan ditempatkan 5 mm dari tepi kulit dan kelompok *large stitch* ditempatkan 10 mm dari tepi kulit. Luka insisi kulit ditutup dengan jahitan kontinyu menggunakan *nylon*. Tikus didekapitasi pada hari ke 4 dan 7. Potongan jaringan diperiksa ekspresi TGF- β dengan imunohistokimia. Perbedaan rerata kelompok dianalisis dengan uji *T*.

Hasil: Tikus pada kelompok *small stitch* memiliki ekspresi TGF- β yang lebih tinggi pada hari ke 4 dan 7 dibandingkan pada kelompok *large stitch* (72,7 [SD 17,37] vs 41,9 [SD 11,74], $p = 0,011$; 69,06 [SD 7,56] vs 40,26 [SD 7,35], $p = 0,000$).

Kesimpulan: Kelompok jahitan interval *continuous small stitch* mempunyai ekspresi TGF- β yang lebih tinggi daripada kelompok *continuous large stitch* dan signifikan secara statistik.

Kata kunci: *nylon, large stitch, small stitch, TGF- β , penutupan kulit abdomen*

COMPARATIVE INFLUENCE OF CONTINUOUS LARGE STITCH AND SMALL STITCH FOR ABDOMINAL SKIN CLOSURE WITH NYLON ON TRANSFORMING GROWTH FACTOR BETA EXPRESSIONS IN WISTAR RATS (*Rattus norvegicus*)

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Background: Surgical wound infection is one of the most common postoperative complications, which can increase morbidity, mortality and treatment costs. Abdominal wall closure method is an important aspect of effective incision closure, in addition to choice of suture material. TGF- β has an important role in the process of healing skin wounds. Technique used for skin closure influences the quality of wound outcome.

Aim: To compare the large stitch technique with the small stitch technique for abdominal skin closure.

Methods: Twenty rats were used in two groups. The small stitch group received 5 mm small tissue bites and the large stitch group received 1 cm large bites. The incisions of skin were closed by running suture using nylon. After 4 and 7 days, animals were euthanized. Histological sections were examined for TGF- β expression by immunohistochemistry. The *t* tests were used to detect a statistical *difference* in two groups.

Results: Rats in the small stitch group had higher TGF- β expression on days 4 and 7 than those in the large stitch group (72,7 [SD 17,37] vs 41,9 [SD 11,74], $p = 0,011$; 69,06 [SD 7,56] vs 40,26 [SD 7,35], $p = 0.000$).

Conclusion: The continuous small stitch interval group had a higher TGF- β expression than the continuous large stitch group and was statistically significant.

Keywords: nylon, large stitch, small stitch, TGF- β , abdominal skin closure