INTISARI

PERBANDINGAN PENGARUH *CONTINUOUS LARGE STITCH* DAN *SMALL STITCH* DENGAN BENANG NYLON TERHADAP EKSPRESI *INTERLEUKIN 6* PADA GARIS INSISI KULIT ABDOMEN TIKUS ALBINO GALUR WISTAR *(RATTUS NORVEGICUS)*

Wisnu Dipoyono Budi Wiseso[1], Imam Sofii[2], Ishandono Dachlan[3]

[1]Departemen Ilmu Bedah, RSUP Dr. Sardjito, *Fakultas Kedokteran*, Kesehatan Masyarakat dan Keperawatan, Universitas Gadjah Mada, Yogyakarta, Indonesia

[2]Divisi Bedah Digestif, Departemen Ilmu Bedah, RSUP Dr. Sardjito, *Fakultas Kedokteran*, Kesehatan Masyarakat dan Keperawatan, Universitas Gadjah Mada, Yogyakarta, Indonesia

[3]Divisi Bedah Plastik Rekonstruksi dan Estetik, Departemen Ilmu Bedah, RSUP Dr. Sardjito, *Fakultas Kedokteran*, Kesehatan Masyarakat dan Keperawatan, Universitas Gadjah Mada, Yogyakarta, Indonesia

Latar Belakang: Infeksi luka operasi adalah salah satu komplikasi pascaoperasi yang paling umum terjadi, paling sedikit 30-40% pada operasi abdomen. Luka insisi kulit ditutup untuk mengembalikan fungsi. Interleukin-6 memiliki peran penting dalam penyembuhan luka kulit, dengan mengatur akumulasi kolagen. Teknik yang digunakan untuk penutupan kulit mempengaruhi kualitas hasil luka.

Tujuan: Untuk membandingkan teknik *large stitch* dengan *small stitch* pada untuk 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 IL-6 dengan imunohistokimia. Perbedaan rerata kelompok dianalisis dengan uji *t*.

Hasil: Tikus pada kelompok *large stitch* memiliki ekspresi interleukin-6 yang lebih tinggi pada hari ke-4 dan 7 dibandingkan pada kelompok *small stitch* (38 [SD 18] vs 42 [12], p = 0,714, *Cohen's d* = 0,24; 41 [SD 12] vs 45 [11], p = 0,650, *Cohen's d* = 0,3). Ekspresi interleukin-6 pada kelompok *small* dan *large stitch* adalah 0,95 kali lipat lebih besar pada hari ke-7 daripada hari ke-4 (p = 0,999, *Cohen's d* = 0,001).

Kesimpulan: Kelompok *large stitch* mempunyai ekspresi interleukin-6 yang lebih tinggi daripada kelompok *small stitch* namun tidak signifikan secara statistik.

Kata kunci: nylon, *large stitch*, *small stitch*, interleukin-6, penutupan kulit abdomen.

ABSTRACT

COMPARATIVE INFLUENCE OF CONTINUOUS LARGE STITCH AND SMALL STITCH FOR ABDOMINAL SKIN CLOSURE WITH NYLON ON INTERLEUKIN-6 EXPRESSIONS IN WISTAR RATS (*Rattus norvegicus*)

Wisnu Dipoyono Budi Wiseso[1], Imam Sofii[2], Ishandono Dachlan[3]

[1]Department of Surgery, Dr. Sardjito Hospital, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia

[2]Division of Digestive Surgery, Department of Surgery, Dr. Sardjito Hospital, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia

[3]Division of Plastic Reconstructive and Aesthetic Surgery, Department of Surgery, Dr. Sardjito Hospital, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia

Background: Surgical site infection is one of the most common postoperative complications, occurring in at least 30-40% of patients undergoing abdominal surgery. Skin incisions need closure to restore function. Interleukin-6 has crucial roles in skin wound healing, by regulating collagen accumulation. 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 of the tissue-embedded sutures were subjected to IL-6 expression. The *t* tests were used to detect a statistical *difference* in two groups.

Results: Rats in the large stitch group had higher interleukin-6 expression on days 4 and 7 than those in the small stitch group (38 [SD 18] vs 42 [12], p = 0,714, *Cohen's d* = 0,24; 41 [SD 12] vs 45 [11], p = 0,650, *Cohen's d* = 0,3). Interleukin-6 expressions in both the small and large stitch group were 0,95-fold greater on day 7 than day 4 (p = 0,999, *Cohen's d* = 0,001).

Conclusion: The large stitch group achieve higher interleukin-6 expressions than the small stitch group but not significant statistically.

Keywords: nylon, large stitch, small stitch, interleukin-6, abdominal skin closure