

INTISARI

PERBANDINGAN PENGARUH INTERVAL JAHITAN KONTINYU *LARGE STITCH* DAN *SMALL STITCH* DENGAN BENANG *POLYVINYLIDENE FLUORIDE* TERHADAP EKSPRESI INTERLEUKIN-6 PADA GARIS INSISI FASIA ABDOMEN TIKUS ALBINO GALUR WISTAR (*Rattus norvegicus*)

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Latar Belakang: Hernia insisional merupakan komplikasi laparotomi median yang sering terjadi. Disrupsi fasia menyebabkan hernia insisional. Fibroblas pada fasia, mensekresi IL-6. Interleukin-6 memiliki peran penting dalam proses penyembuhan luka. Teknik jahitan adalah salah faktor risiko penting dalam kejadian hernia insisional.

Tujuan: Membandingkan pengaruh *large stitch* dan *small stitch* pada penutupan fasia abdomen.

Metode: Dua puluh tikus digunakan pada dua kelompok. Kelompok *small stitch* dimana jahitan ditempatkan 5 mm dari tepi fasia dan kelompok *large stitch* ditempatkan 10 mm dari tepi fasia. Luka insisi fasia ditutup dengan jahitan kontinyu menggunakan *polyvinylidene fluorida*. Tikus didekapitasi pada hari keempat dan ketujuh. Potongan jaringan diperiksa ekspresi IL-6 dengan imunohistokimia. Perbedaan rerata kelompok dianalisis dengan uji *t*.

Hasil: Tikus pada kelompok *small stitch* memiliki ekspresi IL-6 yang lebih tinggi pada hari ke-4 dan ke-7 dibandingkan pada kelompok *large stitch* (38,4 [SD 25,91] vs 37,13 [22,75], $p = 0,834$, *Cohen's d* = 0,07; 69,67 [SD 43,97] vs 58,33 [35,02], $p = 0,664$, *Cohen's d* = 0,28). Ekspresi IL-6 pada kelompok *small stitch* adalah 1,29 kali lipat lebih besar pada hari ke-7 dibanding hari ke-4 dan 1,42 kali lebih besar pada kelompok *large stitch* ($p = 0,806$, *Cohen's d* = 0,17).

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

Kata kunci: *polyvinylidene fluoride*, *large stitch*, *small stitch*, interleukin-6, penutupan fasia abdomen

ABSTRACT

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

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Background: Incisional hernia is a frequent complication of midline laparotomy. Incisional hernia is the late complication of fascial disruption. The fibroblast of the fascia, secretes IL-6. Interleukin-6 has crucial roles in the wound-healing process. The suture technique is important determinant of the risk of developing an incisional hernia.

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

Methods: Twenty rats were used in two groups. The small stitch group received small tissue bites of 5 mm and the large stitch group received large bites of 10 mm. The incisions of fascia were closed by running suture using polyvinylidene fluoride. Animals were euthanized on days 4 and 7. Histological sections of the tissue-embedded sutures were subjected to IL-6 expression. The differences were analyzed with *t* tests.

Results: Rats in the small stitch group had higher IL-6 expression on days 4 and 7 than those in the large stitch group (38,4 [SD 25,91] vs 37,13 [22,75], $p = 0,834$, *Cohen's d* = 0,07; 69,67 [SD 43,97] vs 58,33 [35,02], $p = 0,664$, *Cohen's d* = 0,28). Interleukin-6 expressions in the small stitch group were 1,29-fold greater on day 7 than day 4 and were 1,42-fold greater in the large stitch group ($p = 0,806$, *Cohen's d* = 0,17).

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

Keywords: polyvinylidene fluoride, large stitch, small stitch, interleukin-6, abdominal fascial closure.