

**PERBANDINGAN PENGARUH JAHITAN *CONTINUOUS SMALL STITCH* DAN *SIMPLE SMALL STITCH* DENGAN BENANG *POLYGLYCOLIDE* TERHADAP EKSPRESI *TRANSFORMING GROWTH FACTOR BETA* PADA GARIS INSISI FASIA ABDOMEN TIKUS GALUR WISTAR (*Rattus norvegicus*)**

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**Latar Belakang:** Laparotomi insisi median merupakan tindakan operasi yang paling sering dilakukan dalam setiap tindakan operasi bedah digesti. Komplikasi yang sering terjadi adalah hernia insisional. Fibroblas pada fasia mensekresi *transforming growth factor beta*. *Transforming growth factor beta* berperan penting dalam penyembuhan luka. Teknik jahitan merupakan salah satu faktor yang mempengaruhi terjadinya hernia insisional.

**Tujuan:** Untuk membandingkan pengaruh *continuous small stitch* dan *simple small stitch* pada penutupan fasia abdomen.

**Metode:** Dua puluh tikus digunakan pada dua kelompok. Kelompok *continuous small stitch* dimana jahitan ditempatkan 5 mm dari tepi fasia secara kontinyu dan kelompok *simple small stitch* ditempatkan 5 mm dari tepi fasia secara satu-satu. Luka insisi fasia ditutup dengan jahitan menggunakan benang *polyglycolide*. Tikus didekapitasi pada hari ke 4 dan 7. Potongan jaringan diperiksa ekspresi TGF- $\beta$  dengan imunohistokimia. Perbedaan rerata kelompok dianalisis dengan uji *t*.

**Hasil:** Tikus pada kelompok *continuous small stitch* memiliki ekspresi TGF- $\beta$  yang lebih tinggi pada hari ke 4 dan 7 dibandingkan pada kelompok *simple small stitch* (45 [SD 10] vs 29 [9],  $p = 0,029$ ; 67 [SD 7] vs 21 [ 2],  $p = 0.009$ ).

**Kesimpulan:** Kelompok *continuous mall stitch* mempunyai ekspresi TGF- $\beta$  yang lebih tinggi daripada kelompok *simple small stitch* dan bermakna signifikan secara statistik.

**Kata kunci:** *polyglycolide*, *continuous small stitch*, *simple small stitch*, TGF- $\beta$ , penutupan fasia abdomen

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

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**Background:** Midline laparotomy is the common incision in every digest surgery. Incisional hernia is a frequent complication of midline laparotomy. The fibroblast of the fascia, secretes transforming growth factor beta. Transforming growth factor beta 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 continuous small stitch technique with the simple small stitch technique for abdominal fascial closure.

**Methods:** Twenty rats were used in two groups. The continuous small stitch group received small tissue bites of 5 mm continuing and the simple small stitch group received small tissue bites of 5 mm one by one. The incisions of fascia were closed by suture using polyglycolide. Animals were euthanized on days 4 and 7. Histological sections of the tissue-embedded sutures were subjected to TGF- $\beta$  expression. The differences were analyzed with *t* tests.

**Results:** Rats in the continuous small stitch group had higher TGF- $\beta$  expression on days 4 and 7 than those in the simple small stitch group (45 [SD 10] vs 29 [9],  $p=0.029$ ; 67 [SD 7] vs 21 [2],  $p=0.009$ ).

**Conclusion:** The continuous small stitch group achieve higher TGF- $\beta$  expressions than the simple small stitch group and significant statistically.

**Keywords:** polyglycolide, continuous small stitch, simple small stitch, TGF- $\beta$ , abdominal fascial closure.