Perubahan grading kolagen usus pasca reseksi anastomosis dan pengaruhnya terhadap kebocoran pada kasus intususepsi:uji eksperimental hewan coba tikus = Collagen changes after bowel resection anastomosis procedures in intosusception case and its effect to anastomosis leakage experimental study on rats

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Abstrak

Latar Belakang: Kebocoran anastomosis adalah komplikasi yang dapat terjadi pasca dilakukannya reduksi manual, reseksi dan anastomosis end-to-end pada kasus intususepsi. Faktor-faktor yang mempengaruhi kebocoran anastomosis antara lain teknik operator, kondisi lokal usus, kondisi umum pasien dan grading kolagen yang terbentuk pada proses penyembuhan luka.
Tujuan: Mengetahui pengaruh perubahan grading kolagen usus pasca reseksi anastomosis terhadap kebocoran pada kasus intususepsi.
Metode: Dua puluh satu tikus Sprague-dawley dilakukan laparatomi untuk dibuat model intususepsi (IN). Setelah 45 menit dilakukan destrangulasi selama 10 menit, dinilai adanya nekrosis dan dilanjutkan reseksi anastomosis. Tikus dibagi menjadi 3 kelompok, kelompok A : reseksi anastomosis pada batas usus yang nekrosis, kelompok B : reseksi anastomosis pada batas usus yang mengalami trombosis pembuluh darah mesenteriumnya, dan kelompok C : reseksi anastomosis pada batas usus yang sehat. Sampel usus yang direseksi diperiksa secara Histopatologi untuk menilai grading kolagen. Setelah 5 hari dilakukan laparatomi ulang, dinilai secara subjektif ada tidaknya kebocoran anastomosis, lalu diambil sampel segmen anastomosis usus untuk dinilai kembali grading kolagennya. Diharapkan jika terjadi kenaikan grading kolagen, anastomosis akan paten, sebaliknya jika terjadi penurunan akan terjadi perforasi.
Hasil: Kelompok A: grading kolagen menurun dengan perforasi 6 (85,7%), grading kolagen tetap tanpa perforasi 1 (14,2%). Kelompok B: grading kolagen menurun dengan perforasi 2 (28,6%), tetap dengan perforasi 1 (14,3%), meningkat tanpa perforasi 4 (42,9%). Kelompok C: grading kolagen meningkat tanpa perforasi 5 (71,4%), menetap tanpa perforasi 2 (28,6%).
Kesimpulan: Terdapat perubahan grading kolagen pasca reseksi anastomosis usus yang mempengaruhi tingkat kebocoran anastomosis pada kasus intususepsi.
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Background: Anastomosis leakage is a common complication following manual reduction, resection and end-to-end anastomosis in treating intussusceptions. Factors influencing the anastomosis leakage such as surgeon?s technique, local bowel condition, systemic condition of patients and the concentration of collagen in the bowel tissue during the anastomosis healing.
Aim: To study the effect of collagen concentration changes after resection and anastomosis procedure, in relation to the anastomosis leakages in intussusceptions case.
Methods: 21 Sprague-dawley rats were performed laparotomy to create the intussusception model (IN). The IN models were applied for 45 minute, after the bowel considered necrotic, destrangulation were performed for 10 minutes continued with resection and anastomosis on 3 group of resection margin: A on necrotic margin of bowel, B: on the thrombotic mesenterium vessel margin, C: on normal bowel margin. Resected

bowels were sent for histopathology examination of collagen concentrations. After 5 days, another laparotomy was performed and the anastomosis leakages were subjectively assessed. The anastomosed segments were sampled for collagen concentration and grade.
Results: In study group A the collagen grading were found to be decreased with 6 leakages occurred (85.7%) and 1 subject (14.2%) with stable collagen grading and no leakages. From group B, subjects with decreased collagen and leakages were 2 (28.6%), and 1 subjects (14.3%) were stable in grading with leakages, and 4 subjects (42.9%) with increased collagen without leakages. In Group C, 5 rats (71.4%) had increased collagens without leakages, and 2 rats were at stable collagen grade without leakages.
Conclusion: There were collagen grade changes in bowel anastomosis that affect the extent of leakages in intussusceptions case.