

Cedera iskemia reperfusi pada intestin: Perbandingan antara tindakan ischemic, ischemic pre-conditioning, dan ischemic hypothermia pada oryctolagus cuniculus = Ischemia reperfusion injury in intestine: Comparison between ischemic actions ischemic pre conditioning and ischemic hypothermia in oryctolagus cuniculus

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Abstrak

Introduksi: Iskemia yang terjadi di suatu lokasi di tubuh mengakibatkan kerusakan pada lokasi yang berjauhan; kondisi ini dikenal dengan sebutan cedera reperfusi. Vili intestinal merupakan satu target organ terjadinya kerusakan pada cedera reperfusi dan menjadi motor kegagalan multi organ sistemik. Hipotermia yang ditakuti pada syok justru menunjukkan keuntungan karena bersifat proteksi terjadinya kerusakan vili. Penelitian ini bertujuan membandingkan efek protektif hipotermia dan pre-conditioning pada iskemia.

Metode. Dilakukan penelitian eksperimental pada kelinci New Zealand White (n=18) dengan satu kelompok kontrol (iskemia) dan dua kelompok perlakuan (hipotermia dan pre-conditioning). Dilakukan ligasi a. iliaca communis selama 4 jam, hipotermia sedang (28°C), dan iskemia pre-conditioning pada masing-masing kelompok. Kemudian kelinci dibiarkan hidup selama 8 jam. Setelah dekapitasi, diambil sampel ileum untuk pemeriksaan histopatologi.

Hasil: Dari 18 kelinci eksperimental, 1 mengalami drop out karena infeksi. Dilakukan skoring kerusakan vili intestinal berdasarkan kriteria Puspongoro yang dimodifikasi dengan nilai minimal 4 dan maksimum 12. Kelompok perlakuan pre-conditioning mengalami kerusakan paling minim (= 6,2) diikuti kelompok hipotermia (= 7,1).

Konklusi: Pre-conditioning menunjukkan kerusakan paling minim; dengan kata lain memberi efek proteksi lebih baik dibandingkan dengan kelompok lainnya.

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Introduction: Ischemia occurring in a location in the body results in damage to distant locations; this condition is known as reperfusion injury. Intestinal vilia is a target organ of the occurrence of damage to reperfusion injury and a motor failure of multi-organ systemic. The dreaded hypothermia in shock actually shows an advantage because it protects the occurrence of villous damage. This study aimed to compare the protective effect of hypothermia and pre conditioning on ischemia.

Methods: Experimental studies were conducted on New Zealand White rabbit (n = 18) with one control group (ischemia) and two treatment groups (hypothermia and pre-blocking). Conducted ligation a. iliaca communist for 4 hours, moderate hypothermia (28°C), and preconditioning ischemia in each group. Then the rabbit is left alive for 8 hours. After decapitation, ileum samples were taken for histopathologic examination.

Results: Of the 18 experimental rabbits, 1 had dropped out due to infection. Scores of villus intestinal damage were performed based on modified Pusponogoro criteria with a minimum score of 4 and a maximum of 2. The pre-treatment group experienced the least damage (=6.2) followed by the hypothermia group (=7,1).

Conclusion: Pre conditioning shows the least damage; in other words gives a better protective effect compared to other groups.