

Pengaruh hipoksia sistemik berkelanjutan terhadap kadar glutathion pada jaringan jantung tikus = The effect of continuous systemic hypoxia on glutathione level in rat heart tissue

Nindyasari Laksmi Putri, author

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Abstrak

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Pendahuluan: Jantung adalah organ yang metabolisme energinya bersifat aerobik dan mutlak memerlukan oksigen sebagai akseptor elektron terakhir dalam pembentukan ATP. Pada keadaan hipoksia, terjadi pembentukan radikal bebas akibat terganggunya aliran elektron yang kemudian mengakibatkan stres oksidatif sehingga menyebabkan kerusakan jaringan. Glutathion (GSH) merupakan antioksidan endogen yang dapat menangkal radikal bebas sehingga mencegah kerusakan jaringan. Penelitian ini bertujuan untuk menganalisis pengaruh hipoksia sistemik selama 1 3 5 dan 7 hari terhadap kadar GSH jaringan jantung

Metodologi Jaringan jantung berasal dari tikus Sprague-Dawley jantan usia 6 8 minggu yang telah terpapar kondisi normoksik sebagai kontrol dan kondisi hipoksia sistemik berkelanjutan selama 1 3 5 dan 7 hari. Kadar GSH kemudian diukur dan dianalisa menggunakan ANOVA. Hasil: Hasil penelitian menunjukkan bahwa hipoksia sistemik berkelanjutan selama 1 3 5 dan 7 hari tidak menunjukkan perbedaan bermakna kadar GSH jaringan jantung p 005 Kadar GSH terendah yang ditemukan pada hari 3 1395 ng mg protein

Kesimpulan Hipoksia sistemik berkelanjutan pada penelitian ini tidak berpengaruh terhadap kadar GSH jaringan jantung.

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 ABSTRAK

Introduction: Heart is an organ which the aerobic energy metabolism of it needs oxygen as a final electron for the needs of ATP production. In hypoxic condition the electron flow is interrupted; causing free radicals formation leading to oxidative stress and potentially causes tissue damage. Glutathione (GSH) works as an endogenous antioxidant to counteract free radicals thus preventing tissue damage. This study aimed to analyze the correlation between hypoxia within 1 3 5 and 7 days with GSH levels in the heart tissue. Method The heart sample of was obtained from male SpragueDawley (6 8 weeks old) that has been exposed to normoxic condition as the control and continuous systemic hypoxia within 1 3 5 and 7 days The GSH level was then measured and analyzed using ANOVA. Results The result of this study depicted that continuous systemic hypoxia exposure of 1 3 5 and 7 days showed no significant differences to the GSH level of the heart tissue p 0.05 The lowest GSH level was found on day 3 1395 ng mg protein Conclusion Continuous systemic hypoxia in this study showed

no influence in GSH level in the heart tissue.