

Hubungan antara nilai flow-mediated dilation sebagai parameter disfungsi endotel dengan waktu sadar efektif sebagai parameter hipoksia hipobarik pada awak pesawat TNI AU = Correlation between the value of flow-mediated dilation as a endothelial disfunction parameter with time of useful consciousness as hypobaric hypoxic parameters in Indonesian air force crews

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Abstrak

Latar belakang: Kondisi hipoksia masih merupakan potensi paling berbahaya pada saat terbang, dan berhubungan dengan angka kejadian kecelakaan pesawat baik saat latihan atau tugas operasi. Deteksi dini terhadap efek fisiologis hipoksia sangat penting untuk mencegah bencana dalam penerbangan sipil dan militer. Saat ini ada beberapa penelitian mengenai efek fisiologi pada hipobarik hipoksia terutama di bidang vascular. Fungsi endotel perifer vaskular dapat dinilai melalui pengukuran fungsi vasomotor. Tes non-invasif untuk menilainya dapat menggunakan pemeriksaan flow mediated dilation (FMD). Sejauh belum ada penelitian yang mencari hubungan antara fungsi endotel pembuluh darah perifer terhadap hipoksia sebagai acuan awal deteksi dini faktor risiko terjadinya hipoksia hipobarik pada awak pesawat.

Tujuan: Untuk mengetahui manfaat pemeriksaan disfungsi endotel terhadap hipoksia hipobarik

Metode: Sebanyak 59 awak pesawat TNI AU yang melakukan pemeriksaan kesehatan berkala dan latihan uji latih hipoksia di LAKESPRASARYANTO dilakukan pemeriksaan FMD kemudian dihubungkan dengan menggunakan uji statistik antara WSE dan FMD.

Hasil: Didapatkan proporsi yang mengalami disfungsi endotel sebesar 23.7%. Sedangkan proporsi subjek dengan WSE yang tidak normal sebesar 32%. Tidak terdapat hubungan bermakna antara disfungsi endotel dengan WSE ($p=0,357$) dan nilai $r = 0,111$.

Kesimpulan: Tidak terdapat hubungan bermakna antara disfungsi endotel dengan WSE.

.....Background: Hypoxia is still the most dangerous potential during flight, and is associated with the incidence of aircraft accidents both during training or operating duty. Early detection of physiological effects of hypoxia is very important to prevent mishap in civil and military flights. Currently there are several studies on the physiological effects of hypobaric hypoxia especially in the vascular. Vascular peripheral endothelial function can be assessed through measurement of vasomotor function. Non-invasive tests to assess can use flow mediated dilation (FMD). As far as there has been no research looking for a relationship between peripheral vascular endothelial function and hypoxia as an initial reference to early detection of risk factors for hypobaric hypoxia in aircrew

Objective: To determine the relationship between endothelial dysfunction examined by FMD against hypoxia with time of useful consciousness (TUC) parameters.

Methods: A total of 59 Indonesian Air Force crews conducting periodic medical examinations and hypoxic training in LAKESPRASARYANTO were performed FMD examination and analyzed by correlation statistics between FMD and TUC.

Results: There was a proportion of 23.7% endothelial dysfunction. While the proportion of subjects with abnormal TUC was 32%. There was no significant relationship between endothelial dysfunction and TUC (p

= 0.357) and r value = 0.111

Conclusion: There is no significant relationship between endothelial dysfunction and time of useful consciousness