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Septal deviation and other factors increase the risk of barotitis media in high altitude high opening training

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Abstrak

Akibat perubahan tekanan yang cepat, Barotitis media (BM) sering juga terjadi pada latihan simulasi terjun High Altitude High Opening (HAHO). Penelitian bertujuan untuk mengidentifikasi faktor deviasi septum dan beberapa faktor lain terhadap peningkatan risiko BM. Pada penelitian eksperimen ini subjek terdiri dari anggota TNI yang melaksanakan latihan HAHO di Lembaga Kesehatan Penerbangan dan Antariksa (Lakespra Saryanto) selama Mei ? Juli 2007. Pemeriksaan fisik dilakukan sebelum latihan. Dan pemeriksaan BM setelah latihan oleh peneliti dan dokter spesialis THT. Data diolah dengan uji regresi Cox menggunakan program STATA 9.0. Subyek penelitian sebanyak 177 orang, dan di antaranya (56,5%) mengalami BM setelah latihan. Deviasi septum ditemukan pada 28,8% subjek. Subjek yang menderita dengan dibandingan dengan yang tidak menderita septum deviasi mempunyai risiko 23% lebih besar terkena BM [RR suaian (RRa) = 1,23; 95% interval kepercayaan (95% IP) = 0,95 - 1,60; p=0,123]. Perokok 1-3 tahun mempunyai risiko 68% lebih banyak terkena BM dibandingkan yang tidak merokok (RRa = 1,68; 95% IP = 1,17 ? 2,42; p=0,005). Subjek dengan masa dinas lebih dari 5 tahun dibandingkan masa dinas kurang dari 5 tahun mempunyai risiko 50% lebih besar. Di samping itu, calon siswa atau siswa HAHO mempunyai risiko 40% lebih besar mengalami BM dibandingkan yang memiliki kualifikasi HAHO (RRa = 1,40; 95% IP = 0,99 ? 1,97; p = 0,051). Pada latihan terjun HAHO, untuk mengurangi risiko BM diperlukan perhatian khusus terhadap subjek yang memiliki kelainan deviasi septum, masa dinas yang lama, merokok 1-3 tahun, dan calon siswa serta siswa penerjun HAHO.

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Abstract

Barotitis media (BM) frequently occurr in High Altitude High Opening (HAHO) training simulation as a result from rapid change of pressure. The aim of this study was to investigate septal deviation and other risk factors that increase the risk of BM. This experimental study was conducted at the Indonesian Center for Aviation Medicine and Health (Lakespra Saryanto) during May ? July 2007 involving Indonesian Armed Forces (TNI) HAHO training. Medical examinations were performed before and after training. An otolaryngologist confirm the diagnosis of BM. Cox regression analysis using STATA 9.0 program was performed to identify dominant risk factors for BM. A number of 177 subjects participated in this study. We found 56.5% had BM after training. Septal deviation was found in 28.8% of the subjects and it moderately increased the risk of BM by 23% than normal septum [adjusted relative risk (RRa) = 1.23; 95% confidence interval (CI) = 0.95 ? 1.60; p=0.123]. Those who have been smoking for 1-3 years had 70% increase risk for BM than non-smoking subjects (RRa= 1.68; 95% CI = 1.17 ? 2.42). Those who have been in the force for 5 years or longer were 50% more at risk for BM than those who have been in the force less than 5 years. In addition, trainees had 40% higher risk than subjects with special qualifications for HAHO (RRa = 1.40; 95% CI = 0.99 ? 1.97; p = 0.051). Special caution need to be applied for those who had septal deviation, longer working period, habit of smoking for 1-3 years, and trainees to minimize the risk of BM.