## ABSTRACT

The purpose of this research was to evaluate the influence of hyperbaric oxygenation ( HBO ) on the generation of oxygen free radicals ( OFRs ) in burn animals. This study was held at The Naval Institute of Indonesian Navy by using the hyperbaric chamber.

The methode of this study was laboratory experiments research and the design was posttest only control group design. 36 adult male Wistar rats were used. The animals were randomiseinto two groups. 18 animals received a sham burn ( inflicted a 40 % TBSA: Total Burn Surface Area ) and 18 animals as control no burn. Each groups were expose to 100 % O2 at 1.0 ATA ( control ), 2.4 ATA and 3.0 ATA for 30 menutes three times wich each interval 5 menutes inhalating air. Blood sample have been collected after HBO and 3 hours after HBO, and analysed by Luminometer semi-automatic LUMAT LB 9507 tto determine OFRs level.

The result show that OFRs in burn control increase significantly from 196,87 ± 8,59 RLU's in the beginning ( after burn ), and 220,17 ± 17,79 RLU's at the 3 hours after burn. OFRs two groups ( burn and no burn ) after HBO 2,4 ATA and 3,0 ATA increase to be compare 1,0 ATA ( control ). Three hours after HBO 2,4 ATA OFRs burn group ( 219,00 ± 17,74 RLU's ) decrease and no differ significantly with no burn control group ( 220,17 ± 17,79 RLU's ), but OFRs 3 hours after HBO 3,0 ATA increase significantly ( 1367,83 ± 185,66 RLU/s ).

We conclude, that the progressive tissue damage seem in thermal burn injury and HBO 2,4 ATA seems to prevent this.


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*Key words : oxygen hyperbaric ( HBO ), blood OFRs level.*