



VO₂.max Difference between Students who Regularly Play Soccer Compared with Students who Don't Play Soccer in Darul Hijrah Pesantren, South Kalimantan

Huldani

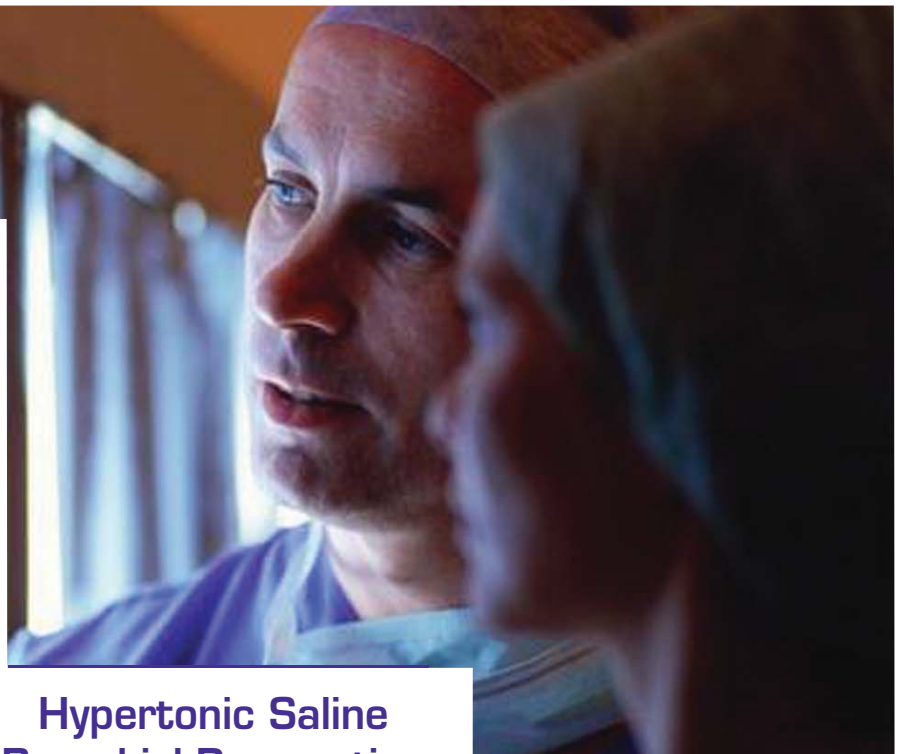
Dept. of Physiology, Faculty of Medicine, Lambung Mangkurat University, Banjarbaru, South Kalimantan, Indonesia

VO₂.max is a physiological parameter in standard measurement of cardiorespirative endurance as the most important component in physical fitness. VO₂.max is body's ability to take, distribute and use oxygen maximally.

Soccer can increase cardiorespirative endurance, because soccer consists of 4 important components of physical fitness: heart endurance and blood circulation, strength, muscle endurance and elasticity. A method to measure VO₂.max is multi-stage fitness test.

To find out VO₂.max difference between student who practice soccer and those who don't, an analytical study was conducted with cross sectional approach. Sampling technique was purposive, analysed with t test. Every group contained 40 students. The result of research t test = 6,423 and t table = 2,020 with significance level of 0,05, There is significant VO₂.max difference between students who practice soccer and students who do not.

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Hypertonic Saline Bronchial Provocation Test (BPT)

**Bambang Supriyatno,
Nastiti N. Rahajoe**

Dept. of Child Health, Faculty of Medicine, University of Indonesia, Jakarta, Indonesia

Asthma is diagnosed based on history and supporting examinations. Bronchial provocation test (BPT) using histamine or metacholine is the diagnostic standard for asthma; but since histamine and metacholine are not easily available, another agent is used as an alternative, such as hypertonic saline (NaCl 4.5%).

The aim of this study is to measure the sensitivity and specificity of this agent compared with histamine.



BPT using histamine and hypertonic saline (HS) were applied to asthma patients diagnosed according to National Consensus of Child Asthma. Thirty patients underwent HS BPT and 22 patients underwent histamine BPT. The age mode was 9 years old, male : female ratio was 3 : 1; 70% were classified as infrequent episodic asthma, 30% were frequent episodic asthma. no persistent asthma was found. Atopy history in family were found in 70% patients, and 66.7% patients have atopy. Among 30 patients who underwent HS BPT, 53.3% gave positive results, and among 22 histamine BPT patients, 68.2% were positive.

Among infrequent episodic asthma patients, 42.9% showed positive results to HS, and 60% to histamine, compared with 77.8% and 85.7% in the group of frequent episodic asthma. The sensitivity and specificity of HS as provocation agent were 86.7% and 85.7% respectively; the positive predictive value was 92.9% and the negative predictive value was 75%.

HS can be used as an alternative to histamine in BPT for diagnosing asthma with 86.7% sensitivity and and 85.7% specificity.

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