Clinicopathological Correlation in Exertional Heat Stroke Amongst Service Personnel

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Introduction: Exertional heat stroke (EHS) in contrast to classic heat stroke (CHS) is encountered amongst active healthy individuals who overexert in the heat, though it can still occur in temperate climates. It is a life threatening emergency which rapidly progresses to multiorgan failure with its attendant mortality.

Aim and Methodology: Sporadic cases of EHS are reported time and again from service personnel. Here we are reporting eight cases of EHS who ended fatally along with their autopsy findings.

Observation Age: All eight cases were serving male between age 20-44 years and had prior history of exposure to severe exertion except one four cases fell down unconscious while running. Two cases reported after variable period with delirium and haematemesis respectively. One case reported with high fever and seizure and died shortly after arrival at hospital. The other case felt listless during noon and was found dead while sleeping with axillary temp of 42.2°C. Among the presenting features only one case reported with high fever (seven), Hypotension (Four), ecchymotic patches in skin (one), evidence of pulmonary oedema (one), were also noted at admission besides various neurological signs. Despite definite therapy all (seven) of them rapidly deteriorated with multi organ failure and expired within 1 hr 15 min to 136 hr (average - 48 hr). Autopsy revealed ecchymotic patches in skin (one), congestion of various organs in all, cerebral oedema (five), brainstem infarct (one), pulmonary oedema (six), pneumonia (one), petechie over pleura, peritoneum and pericardium along with haemorrhagic fluid (three), ATN (five), haemorrhagic necrosis of variable areas of mucosa of stomach, duodenum and jejunum (three), mesenteric lymph node enlargement (two) and myonecrosis (one). Details will be discussed.

Conclusion: EHS though sporadic yetis likely to be increased in view of global warming. Greater awareness regarding them will help in identifying those in risk, in diagnosing them early and in instituting early therapy. Acclimatisation, Pre-exertion medical check, enforced rest, adequate fluid intake and early cooling are recommended to decrease the mortality.

Physician’s Understanding of Evidence-Based Medicine (EBM) Statistics: A Systematic Review

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Introduction: Curriculum for evidence-based medicine (EBM) instruction emphasizes learning basic statistics. One of the criteria’s of a successful outcome of EBM instruction is an improved understanding of basic statistics. We sought to review the literature for assessing baseline understanding of medical professional of commonly used statistical terms.

Methods: Studies were limited to original research on quantitative measurement of physicians understanding of common statistical terms, i.e., probability, positive predictive value (PPV), number need to treat (NNT), risk reduction. The search strategy included queries in Medline, Embase, Psychinfo, Web of science, checking of reference lists, hand-searching relevant journals and personal communication with experts. Study design, quality and two independent reviewers abstracted limitations.

Results: Fourteen studies met the inclusion criteria. These included articles that dealt with either diagnosis (6) or therapy (6) or combined diagnosis and therapy (2) statistical understanding in medical professionals. Commonest physician errors were overestimating PPV (78-95%), inability to understand Bayesian logic (97%), or likelihood ratio (99%). Almost all studies revealed a preference of RRR and ARR (25% vs 75%). Presenting data in natural frequency format improved understanding of diagnostic terms.

Conclusion: Despite the widespread use of EBM instruction, understanding of basic EBM statistics by medical personnel is limited. Insipite of the heterogeneity of research methods the results are generalisable as the studies were reported from four continents. Using alternative format of presenting statistical terms and data (natural frequency, graphical format) may augment the EBM curriculum.
Smoking Habits Among Medical Students: Prevalence and Dependence

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Introduction: The use of tobacco by doctors reflects their attitudes to tobacco. Along with endangering their own health, doctors who smoke send a misleading message to their patients and to the public. Doctors who don’t smoke are more likely to help their patients to quit. Considering the increased awareness against smoking among the masses we studied the smoking habits among medical students of a few reputed medical colleges.

Method: Questionnaires based on smoking habits were distributed to students of various medical colleges of North India. Dependence on smoking was assessed by the quantitative method using the “Fagerstrom test for nicotine dependence”, which includes questions like number of cigarettes a day and time of the first cigarette after waking up, etc. The motivation to stop smoking was assessed qualitatively by direct questions about intentions to quit.

Results: Out of a total of 182 medical students who filled the questionnaire, 80 (44%) were smoking and 102 (56%) turned out to be non-smokers. The percentage of smokers increased with the higher semesters among the undergraduates. The average age of smokers was 23 years and the mean age of starting smoking was 18.65 years. In our survey, 37.5% students started smoking after seeing others smoke. 32.5% smoked because “smoking decreases stress”, while 8.75% started because of “peer pressure”. Only 11% were heavy smokers and 45% smokers had a family history of smoking. 35% medical students on questioning showed nicotine-dependence. 65% had made attempts to quit and 62% were willing to quit if assisted.

Conclusion: Prevalence of smoking is high among medical students and majority are willing to quit smoking. There is need to educate and provide assistance to them to stop smoking, as changes in smoking habits of doctors may indicate future trends and help in decreasing the smoking-population.

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