MILITARY TRAINING: WHEN TO OBSERVE CAUTION DURING HOT WEATHER?

Dear Editor,

It is common knowledge that both increased environmental temperature and high relative humidity increase likelihood of ill effects of heat such as heat stroke/exhaustion. Though all medical officers are aware that the interaction of temperature and humidity is more important than either of the two per se, no objective guidelines are easily available in standard textbooks or for that matter even the Manual of Health for the Armed Forces (popularly known as the 'Red Book'), to objectively advise the regimental officers whether or not to carry out strenuous training activities such as BPET, cross country, etc.

Reproduced below is a chart (Fig-1), from a military training pamphlet [1], which serves the above purpose. It gives details of determining the risk of exercising in the heat, once we know the outdoor temperature and relative humidity. With these weather data, one can use the chart to predict whether it is safe to exercise. In the "safe zone" of the chart one can exercise without risk. In the "caution zone" it is safe to exercise lightly if one takes adequate fluids before, during and after training sessions. When the temperature-humidity combination is in the "danger zone" it is unsafe to exercise at all.

To determine the risk of exercising in the heat, find the temperature at the left of the chart, and read from it across the right and stop at vertical line that represents relative humidity. For e.g. on a 90°F day, if relative humidity is less than 30%, the weather is in the "safe zone".

It is proposed that this chart should be available readily with all medical officers particularly during summer months, and they should also keep a note of temperature and relative humidity daily to properly advise on military training in hot weather. Meteorological data are maintained at the station health organizations which can also advise the station authorities to appropriately issue necessary station orders.

Fig. 1 : Humidity - temperature chart to determine heat risk

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GRAM NEGATIVE PRIMARY PERITONITIS IN NEPHROTIC SYNDROME

Dear Editor,

We are reporting a case of nephrotic syndrome complicated by acute gram negative peritonitis. A high index of suspicion, early diagnosis and treatment is essential for this potentially fatal complication.

A 9 1/2-year-old boy, known case of nephrotic syndrome in remission on alternate day steroids presented with fever and pain in abdomen. He had stopped steroids 2 weeks prior to this admission on his own. He had abdominal tenderness, rebound tenderness, guarding and rigidity. Peritoneal tap was suggestive of bacterial peritonitis with polymorph 600/cumm. Gram stain revealed gram negative organisms. However, culture was sterile. In view of features of peritonitis an exploratory laparotomy was done to rule out a perforation, which was found to be absent. He was managed with parenteral cefotaxime and gentamicin. Post op recovery was uneventful. After two weeks he was restarted on steroids and is presently in remission.

Primary peritonitis refers to an acute purulent inflammation of peritoneal cavity without identifiable intra-abdominal source [2]. Nephrotic syndrome in children predisposes to this condition. Most are in relapse or on steroids [1]. Predominant organism is *Streptococcus pneumoniae* (38%), culture negative in 27% while only 3% were due to gram negative organism [1]. Ascitic fluid should be obtained in sufficient quantity, centrifuged and cultured to improve

growth on culture. Prophylaxis with pneumococcal vaccine reduces incidence of infection in nephrotic syndrome [4]. Treatment is essentially conservative. Surgery is indicated either in case of suspected perforation or if no improvement is seen after 48 hours of appropriate antibiotics. Surgery was considered in our case due to presence of gram negative organism in ascitic fluid which is very rare in such cases.

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