Acute encephalitis syndrome following scrub typhus infection

Sir,

We read the article titled “Acute encephalitis syndrome following scrub typhus infection” by Kar et al. with great interest. The author reported six cases of acute encephalitis syndrome (AES) secondary to scrub typhus infection. We want to highlight certain issues regarding the management of these patients.

According to the author, once the diagnosis of scrub typhus was established, patients were continued only on doxycycline 100 mg twice daily for a period of 7–10 days. For patients who showed inadequate response to doxycycline alone, azithromycin was “added.” We also agree that doxycycline is the first drug of choice for scrub typhus and, for doxycycline-resistant cases, azithromycin is a safe “alternative.” But, we could not find any literature in which the combination of doxycycline and azithromycin was used for the treatment of poorly responsive scrub typhus.

The Cochrane review 2010 found no difference between azithromycin and doxycycline for the treatment of scrub typhus. A recent meta-analysis found macrolide antibiotics such as azithromycin to be highly effective against scrub typhus and concluded that they are appropriate “alternatives” in areas where doxycycline-resistant scrub typhus is prevalent. The only study that evaluated combination therapy for scrub typhus used doxycycline and rifampicin. But, unfortunately, this combination therapy was found to be ineffective against O. tsutsugamushi and rifampicin monotherapy was found to be more effective than doxycycline in the resistant strain.

Therefore, we think that addition of azithromycin to doxycycline for patients who showed inadequate response to doxycycline alone was irrational. The author should have replaced doxycycline with azithromycin in those cases.

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Acute kidney injury in wasp sting—do early bicarbonate and mannitol make a difference?  

Sir,

We read an article by Radhakrishnan [1] with great interest as it made us realize the need for aggressive correction of intravascular depletion and renal vasoconstriction, to avert acute kidney injury (AKI). Here we would like to mention the role of sodium bicarbonate and mannitol in the prevention of AKI in wasp sting.

After resuscitation and restoration of renal perfusion in these cases, the kidneys clear a large amount of acid load resulting in acidic urine. Patients with rhabdomyolysis in the presence of acidic urine are at high risk of developing tubular cast which results in pigment nephropathy and acute tubular necrosis [2], since they are unable to alkalinize. However, Knottenbelt have argued that large-volume of crystalloid infusion causes a solute diuresis sufficient to alkalinize the urine. On the contrary, a massive infusion of normal saline alone contributes to metabolic acidosis, mainly owing to the dilution of serum bicarbonate with a solution relatively high in chloride ions, generating hyperchloremic metabolic acidosis with the observed reduction in serum pH [3]. Therefore, administration of both normal saline and sodium bicarbonate seems to be a reasonable approach when fluid is being replenished in patients with rhabdomyolysis.

Mannitol may have several benefits as an osmotic diuretic [5]. Being an osmotic diuretic, it increases the glomerular filtration rate and urinary volume. Since it is filtered by the kidneys and not reabsorbed, it remains in the renal tubules and causes an increase in the delivery of sodium to the distal tubules and thereby continues its osmotic diuretic effect. This results in a “flushing” effect within the tubules that may reduce the accumulation of cellular debris and casts. Mannitol also to some extent creates a gradient that extracts fluid that has accumulated in injured muscles and thus improved hypovolemia, reduces blood viscosity, and enhances reno-vasodilation; and finally acts as a free-radical scavenger. In view of these, prescribers shall administer mannitol earlier in order to prevent AKI, and shall remember that the advantages of mannitol are lost once complete tubular occlusion occurs.

Wasp stings pose a great hazard in tropics. Doctors being the health guardian of the community, they have to educate and empower the community on health aspects. In this regard, the community shall be educated to bring the cases of wasp stings to the hospital as early as possible, even if the cases appear to be normal or stable. Practitioners must consider and exclude not only an anaphylactic reaction, but also monitor these cases for overt or covert insult to the kidneys, liver, muscles and blood. They shall keep themselves alert and anticipate the unexpected to happen, and be prepared to treat them with appropriate agents.

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