To the Editors:

Quadriparesis after a wasp sting

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A 30-year-old male patient, employed as a security guard, was brought to the hospital with weakness of all four limbs after being stung by a wasp on the back of the neck the previous evening. He had mild swelling and pain at the site, which resolved on the same day. The patient had received an intramuscular injection of tetanus toxoid that night. The next morning the patient awoke from sleep and realised that he was unable to rise from bed, due to weakness in the upper and lower limbs. He was otherwise healthy and had no history of recent medications or abuse of drugs or alcohol.

On admission he was conscious, co-operative and oriented. He had flaccid quadriparesis with weakness of proximal and distal groups of muscles and power of grade 2/5. There was weakness of neck muscles with head lag. Deep tendon reflexes of the upper limbs were sluggish. Lower limb reflexes were normal with bilateral flexor plantar response. There was no sensory loss and the cranial nerves were normal. Examination of other systems was normal. Full blood count, liver, renal and thyroid function tests were normal. Human immunodeficiency virus (HIV) and hepatic viral markers were negative. Serum sodium, chloride, calcium, phosphate, magnesium, random sugar, creatinine and phosphokinase levels were within normal range. Arterial blood gas analysis, chest radiograph and ultrasound of abdomen and pelvis were normal.

Since serum potassium level was very low, 1.3 mEq/dl (normal range 3.5-5 mEq/dl) and ECG showed prominent U waves, a diagnosis of hypokalemic paralysis was made. Potassium was replenished and muscle power returned to normal in all four limbs after 48 hours, and ECG changes resolved. Nerve conduction studies were normal in all limbs. The patient recovered completely and remained asymptomatic at follow up after one year.

Quadriparesis has been reported after wasp stings due to acute inflammatory demyelinating polyneuropathy, encephalomyeloradiculopathy and hypokalemia associated with type I renal tubular acidosis [1-3]. It appears that the wasp venom has the potential to induce muscular paresis by inducing hypokalemia only as shown in this case.

References

To the Editors:

Reply: Takotsubo cardiomyopathy after an emotional outburst

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With interest we read the article by Shyamali et al. about a 63-year-old female with classical Takotsubo syndrome (TTS) after an emotional argument with her daughter-in-law [1]. We have the following comments.

Physical stress triggering TTS may not only be trauma, surgery, or severe illness, but also central nervous system disorders, such as subarachnoid bleeding, epilepsy, ischaemic stroke, intracerebral bleeding, posterior reversible encephalopathy syndrome (PRES), amyotrophic lateral sclerosis, bacterial, viral, or immune-mediated meningitis / encephalitis and traumatic brain or spinal cord injury. Rare causes of central nervous system triggers of TTS include hydrocephalus, subdural haematoma, venous aneurysm, brain tumour, hepatic encephalopathy and multiple sclerosis [2]. Though apical ballooning is the common abnormality in TTS, other parts of the left ventricular wall may be involved rarely [3]. The prognosis of TTS is usually good in the majority, but the outcome may be poor if the underlying trigger is a severe disorder, if the global type of TTS is present, or if TTS is complicated by severe rhythm abnormalities [4]. During treatment catecholamine should be avoided in TTS despite severe systolic dysfunction, since catecholamine storm is regarded as the principal pathogenetic factor of TTS [5].
Hepatitis B virus (HBV) infection poses a serious occupational threat to groups like health care workers (HCW) [1]. Studies indicate that the risk of acquiring HBV is four times higher in HCWs compared to non-HCW [2]. HBV prevalence among HCW is ten times that of individuals in the general population [2]. The main mode of transmission of HBV among HCW in a clinical setting is through needle stick injuries or cuts and abrasions coming into direct contact with infected body fluids. Infection may also occur by indirect contact via contaminated fomites such as table tops, bedding and clothing [1]. About 6 to 14% of HCW develop clinical HBV infection from needle prick injuries of HBV surface antigen (HBsAg) positive patients [1].

Routine pre-exposure vaccination is mandatory for HCW and other high risk groups. Despite the vaccination, a number of studies indicate that a minority of individuals (2-10%) remain non-responsive to the vaccine with immunity below protective levels (anti-HBs <10 mIU/ml) [3]. Such non-responders among HCW are at risk of contracting HBV infection. Identification and revaccination of such individuals are important in order to prevent HBV infection among HCW [4].

The current study involved 90 vaccinated medical students aged 22 to 25 years from the Faculty of Medicine, University of Peradeniya. All had received three doses of HBV vaccine within the same time period. Data such as age, sex, ethnicity, date of vaccination, current medication and presence of any liver disease or dysfunction were collected. Blood samples were taken approximately eight weeks after their last dose of the vaccination. Serum was subjected to an ELISA (ANTISURASE B-96 – TMB, Taiwan) to assess anti-HBs levels. Data obtained from the ELISA and questionnaires were analysed using SPSS statistical software and Microsoft Excel 2010. Approval for the study was obtained from the Ethics Committee of the Faculty of Medicine, University of Peradeniya.

Of the 90 participants, 55 were females. All participants had absorbance values above the calculated cut off value for protection indicating anti-HBs levels over 10 mIU/mL. This suggests protective levels of immunity.

None of the participants had blood transfusions, needle prick injuries, intravenous drug use or unprotected sexual intercourse in the past. Thus, it was assumed that any immunity acquired was by vaccination and not due to previous exposure to HBV. According to the WHO, the HBV vaccine (Euvax, Korea) produces protective immunity in more than 95% of vaccinated adults and this is in agreement with the results of our study in which the protective immunity achieved was 100% [3]. HBV vaccination is known to provide long term protection that lasts for several years. According to previous studies immunised individuals had anti-HBs levels above 100 mIU/ml even after 14 years of their last vaccination [5]. The most plausible reason for 100% protective immunity in our study cohort would be the participants’ age. Immune response to the HBsAg vaccine is poor in those above 30 years of age. Poor immune response to HBV vaccination has been shown to increase from 2.8% in individuals at the age of 30 to 4.2% in individuals at the age of 40 [3].

References

To the Editors:

Immune response to hepatitis B vaccination in a group of medical students in Sri Lanka

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