

**EV0270**

**ePoster Viewing**

**Skin, soft tissue, bone & joint & central nervous system infections**

### Generalized tetanus complicated with Guillain-Barre Syndrome

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**Background:** There is evidence against an association of GBS with tetanus toxoid containing vaccine, but the association of GBS with tetanus is unknown.

**Material/methods:** A retrospective analysis of patients diagnosed with tetanus covering the period between January 2000 through October 2015 was conducted to examine the occurrence of GBS.

**Results:** During the study period, 13 patients were diagnosed with generalized tetanus. The mean age of these patients was 63.5 (range 38 - 79) years, and 62% (8/13) were men. The treatments for tetanus included metronidazole (100%, 13/13), tetanus immune globulin (92.3%, 12/13), a benzodiazepine such as midazolam or diazepam (92.3%, 12/13), muscle relaxants (69.2%, 9/13), and wound care (61.5%, 8/13). Eleven patients (84.6%) underwent airway management (6 endotracheal intubations and 5 tracheostomies). Ten patients were admitted into the intensive care unit (ICU) and received mechanical ventilation (for a range of 3 to 30 days). One patient (7.7%) died of tetanus. One or more complications of tetanus were observed in 11 patients (84.6%): 10 patients (76.9%) with autonomic dysfunction, 8 (61.5%) with hospital-acquired infections (8 pneumonia, 3 wound infection, and 3 *Clostridium difficile* infection), and 1 (7.7%) with deep vein thrombosis. During the study period, 2 cases (15.4%) were complicated with GBS. The patients had muscle weakness of the limbs and abnormal deep tendon reflex responses. The results of nerve conduction velocity (NCV) testing were strongly suggestive of GBS. After a 5-day infusion of intravenous immunoglobulin, muscle strength in both patients improved from Medical Research Council (MRC) grade 1 to MRC grade 4 or higher (Table 1).

**Conclusions:** In this study, we showed that generalized tetanus can be complicated with GBS. Therefore, a physician should keep in mind that GBS could be an important cause of muscle weakness.

Table 1. Characteristics of tetanus patients with Guillain-Barre syndrome

	Case 1	Case 2
Age (years)	71	79
Sex	Male	Female
Type of tetanus	Generalized	Generalized
Identifiable portal of entry	Lower limb	Neck
Severity of tetanus	Severe	Severe
Time from onset of tetanus and GBS (days)	23	8
Duration of ICU stay after onset of GBS (days)	22	6
Previous use of drugs affecting muscle strength	Magnesium sulfate, diazepam	Vecuronium, midazolam

Symptoms and signs at early stage of GBS		
Muscle strength from #MRC grading	MRC grade 1 on lower limbs	MRC grade 2 on all limbs
Deep tendon reflex	Not noticed	Diminished
NCV findings	diffuse sensory-motor polyneuropathy with absent or delayed F waves in the limbs	diffuse motor dominant polyneuropathy with absent F waves in the limbs
Therapeutic option for GBS	IVIG for 5days	IVIG for 5days
Muscle strength after infusion of *IVIG	MRC grade 4 on lower limbs	MRC grade 4 on all limbs