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Recurrence rate of rhabdomyolysis among healthy adults in a military hospital: a prospective observational pilot study

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Objectives: Rhabdomyolysis is a syndrome caused by rapid breakdown of skeletal muscle. Toxic cellular contents leaking to bloodstream would lead to acute kidney injury, compartmental syndrome, or disseminated intravascular coagulation. There was little evidence of recurrence rate of rhabdomyolysis due to lack of observational study performed in prospective manner. This study is prospective, observational study to assess recurrent rate of rhabdomyolysis in young, male military subjects.

Methods: From September 2016 to August 2017, newly diagnosed rhabdomyolysis patients who treated in Armed Forces Command Hospital were asked to participate the surveillance based prospective observational study for recurrence of rhabdomyolysis. The subjects followed 3-month interval surveillance until October 2018. They asked to visit the hospital when muscular or urinary symptoms recur and laboratory tests including serum creatinine kinase (CK) test was done. Recurrent rhabdomyolysis defined as more than one symptom of rhabdomyolysis with serum CK elevation.

Results: A total of 17 patients were participated in the study. Fourteen patients (82%) were exertional and three (18%) had infectious rhabdomyolysis. During median 196 days of follow-up, four (24%) of the study subjects had recurred rhabdomyolysis proved by serum CK test. All four recurred subjects' cause of recurrence was exertion. Crude recurrence rate in the study was 34.2 per 100 person-years (95% confidence interval: 12.8–91.1).

Conclusions: This prospective pilot study aimed to discover the recurrence rate of rhabdomyolysis among young, physically active participants. Compared with other retrospective observational studies, this study shows relatively high recurrence rate during follow-up period.