

The Fall of an Old Lady Living Alone: An Impasse

M Kanbay, L Özçakar, O Özbek, A Akcay

Citation

M Kanbay, L Özçakar, O Özbek, A Akcay. *The Fall of an Old Lady Living Alone: An Impasse*. The Internet Journal of Internal Medicine. 2003 Volume 5 Number 1.

Abstract

Reported here is an old lady who had died due to consecutive complications after a fall episode. Besides rendering the 36 hour clinical scenario that she had encountered afterwards, we have also touched upon the burden of falls in the elderly population.

INTRODUCTION

Falls display a surplus of complications in the geriatric population. Although they can be prevented by simple measures and education they may sometimes turn out to be an impasse. In this report, presenting an old lady who had succumbed to the complications after a fall in the bathroom, we have touched upon this onerous medical condition in the light of the pertinent literature.

CASE REPORT

A 65 year old lady was admitted to the emergency room - being conveyed by her relatives- after she had been found unconscious lying down in her bathroom. Her medical history comprised only hypertension for the preceding two years. The immediate physical examination revealed isochoric pupillae, increased deep tendon reflexes and Babinsky positivity on the left side. Her eyes were open but she was not responding to painful or verbal stimuli. Increased diameter of her right thigh was also noted. Her vital functions and the electrocardiography (ECG) were quite normal. The laboratory analysis yielded white blood cells: 20000/mm³ (4500-11000) with 84% neutrophils and no atypical cells in the blood smear, C-reactive protein (CRP): 34 mg/l (0-10), AST: 185 U/L (0-40), ALT: 128 U/L (0-40). Radiographies of her extremities and abdominal ultrasonography (USG) were unremarkable. The echocardiography was consistent with left ventricular hypertrophy. Cranial computed tomography (CT) was noncontributory.

She was then transferred to the intensive care unit with the likely diagnosis of transient ischemic attack (TIA). Low molecular weight heparin was accordingly started. On the second day of her hospital stay, she became conscious but

could not recall any episode of falling. The doppler USG for carotid arteries, cranial magnetic resonance imaging (MRI) and MR angiographic studies could not demonstrate any pathologies. Further investigations for her right lower extremity were then commenced. With the absence of pulses in that extremity and the swelling of the right thigh having not regressed, she was consulted to the orthopedists and vascular surgeons. They have also noticed that the right leg was distended and tender to palpation.

With the suspect diagnosis of deep venous thrombosis or compartment syndrome, they have ordered doppler USG which was normal. They have measured intracompartmental pressure of the right cruris which was found to be increased. Subsequently, they planned to perform fasciotomies. Due to a simultaneous fever of 38.5 °C; we have repeated the laboratory analysis which was consistent with CRP: 128 mg/l, AST: 824 U/L, ALT: 426 U/L, creatinine (Cre): 2.2 mg/dl (0-1.3), blood urea nitrogen (BUN): 37 mg/dl (0-20), creatinine phosphokinase (CPK): 1700 IU/L (22-240). All of the hepatitis markers for HBV, HCV, EBV, CMV; tests for brucella and legionella were negative. Abdominal CT was normal but CT for the right thigh depicted an adductor magnus hematoma. A wide spectrum empirical regimen of piperacilline-tazobactam was started before the results of blood and urine culture -which later on turned out to be normal. After the fasciotomies, at night, the blood analysis seemed to deteriorate even further and the urine output was progressively decreased (Table 1).

Figure 1

Table 1: The consecutive laboratory analysis of the patient

Parameter	On admission	18 th hour	30 th hour
Hb (g/dl)	15.6	13.4	12.4
WBC (/mm ³)	20000	21800	28000
PLT (/mm ³)	303000	124000	51000
ALT (U/L)	128	2167	6440
AST (U/L)	185	3300	16960
BUN (mg/dl)	20	55	52
Cre (mg/dl)	1.2	4.2	3.6
CPK (U/L)	-	23780	84070
CRP (mg/l)	34	173	144
Urine output (cc/h)	-	75	5

She started to develop hypotension (<80/40 mmHg) and hypothermia (<35° C). With increased prothrombin time, fibrin degradation products, D-dimer and decreased fibrinogen levels she was diagnosed to have disseminated intravascular coagulation (DIC). Vancomycine, clindamycine and amikacin were also started with the probable diagnosis of systemic inflammatory response syndrome (SIRS). She was actively warmed, dopamine and dobutamine infusions were given. Arterial blood gas analysis disclosed mixed acidosis (pH: 7.01, pCO₂: 72 mmHg, pO₂: 64 mmHg, HCO₃: 7.8 mmol/l) and O₂ saturation was 83%. Due to these findings and the likely diagnosis of rhabdomyolysis, mechanical ventilation and hemodialysis were commenced. Despite dialysis and the mechanical ventilation she did not improve and got arrested. She did not respond to resuscitation and unfortunately died on the 36th hour of her admission. Postmortem pathological studies uncovered normal lungs and ischemic necrosis of the liver.

DISCUSSION

In this report, what we aimed to highlight was the untoward contribution of a fall to a devastating eventuality in the geriatric population. Considering the fact that more than one third of persons 65 years of age or older fall each year, and in half of such cases the falls are recurrent (^{1,2}), clinicians must exercise care and vigilance as they deal with this common clinical problem. Approximately, 1 in 10 falls results in a serious injury and falls account for 10 % of emergency visits and 6 % of urgent hospitalizations among elderly (^{3,4}). Majority of these falls result from interactions between long-term or short-term predisposing factors and short-term precipitating factors in the environment (⁵). Arthritis, depression, orthostasis, medications, cognitive impairment, vision, balance, gait disturbances are some of

the conditions one can immediately recollect.

Despite the skepticism on the optimal age to initiate screening, the seventh decade is generally accepted to be the time after when the rate of falling and the relevant risk factors do increase (⁵). A substantial medical history taking, prompt physical examination -including targeted neurological and musculoskeletal system evaluations-, laboratory testing and necessary imaging will definitely provide sufficient hints for a likely predisposition and towards a beneficial treatment strategy.

The individuals at risk and the family members should be educated about the multifactorial nature of falls and the preventive measures -for the elderly living alone even what they should be prepared to do if they fall and can not get up. General guidelines have been released (^{6,7}) and multidisciplinary approach with the cooperation of many specialties is crucial. Recently, vitamin D status of these patients has also gained an intriguing concern since vitamin D supplementation -besides preventing the fall related hip fractures (⁸)- has also been shown to preserve muscle strength and functional ability in high-risk groups (⁹).

Overall, presenting an old lady who had died due to a series of untoward complications after a fall episode, we have rendered the possibility of such an unfortunate clinical scenario. We advocate that assessing and treating elderly in regard to every aspect of falls should always remain as an important priority in the realm of geriatrics.

CORRESPONDENCE TO

Mehmet Kanbay 35. sokak 81/5 06490 Emek, Ankara
TURKEY Tel: +90 312 3094142 Fax: +90 312 3105769 E-mail: drkanbay@yahoo.com

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Author Information

Mehmet Kanbay, M.D.

Department of Internal Medicine, Başkent University Medical School

Levent Özcakar, M.D.

Department of Physical Medicine and Rehabilitation, Hacettepe University Medical School

Orhan Özbek, M.D.

Department of Radiology, Başkent University Medical School

Ali Akcay, M.D.

Department of Nephrology, Başkent University Medical School