Chapter 6
Fall: A Geriatric Syndrome with Endless Agony

6.1 Falling: A Casual Approach and Its Consequences

It was the winter of 2012. At 5 AM, Mr. Satya Sharma suddenly ran towards the kitchen after hearing an abnormal sound.

"What happened? I heard some loud noise".

"Oh! Nothing. It was just the biscuit container", replied Sita Devi.

"I thought you fell", said Mr. Sharma.

Ms. Sita Devi, wife of Mr. Sharma, would always wake up at 5 am, even in the chilling winters, and then she would bathe in the Ganges, the holiest river of India, and pray. After some preliminary puja, she was preparing tea for Mr. Sharma, who had the habit of having tea before the morning puja.

This is a story of a Brahmin family who were residents of the holy city of Varanasi, Uttar Pradesh, which is also probably one of the oldest cities in the human history. Mr. Satya Sharma was a retired school teacher, and his previous four generations had also been from Varanasi. His grandfather, father and uncle were Pandits at Lord Shiva's Kashi Temple. Mr. Sharma was a peace-loving citizen with an uneventful life. Although Lord Shiva did not bless them with a child, they were not living an unsatisfied life. His wife, Ms. Sita Devi, was a polite and disciplined lady who spent her whole life taking care of her husband and family. When I inquired about routine health check-ups of Ms. Sita Devi, Mr. Sharma casually replied, "She never had any health problems in her life time. So, she never visited any doctor except the free health camps".

Indeed, Mr. Sharma's response is not surprising as it is the usual and predominant attitude of older adults from villages and small towns. Their awareness about regular health check-ups is abysmally low. Routine screening of silent noncommunicable disease like hypertension, diabetes, coronary diseases or functional and cognitive capacity is restricted to the educated class or if it is under some employer's scheme.

Ms. Sita Devi did not have any dizziness or blurred vision before she fell. As the water was boiling on the kettle, she stood up immediately, within a fraction of seconds, and was unaware whether she had lost consciousness. But she thought that it

P. Chatterjee, *Health and Wellbeing in Late Life*,
https://doi.org/10.1007/978-981-13-8938-2_6

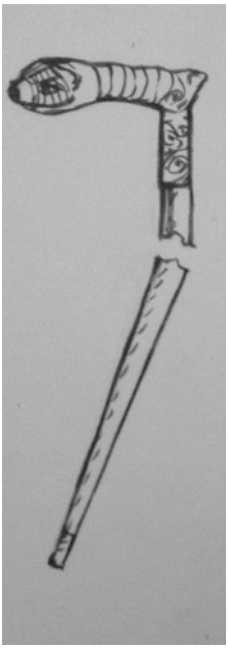
could be something related to either age or weakness. Although there was no injury or pain, she grew quite anxious. But later she realized that she had pain in her left hip, which was gradually becoming unbearable. So, she finally told her husband that she was afraid that she might have gotten a hip fracture.

"What will be the consequence?" said Ms. Sita Devi.

"Don't think too much", replied Mr. Sharma, although he understood her apprehension and took her to the closest nursing home.

In India, nursing homes are specialty hospitals and not a place for long-term care, unlike developed countries. Many nursing homes have provisions for multiple specialties under one roof [1]. Ashirvad Nursing Home, a reputed care centre, caters to the needs of the community near *Assi Ghat*, one of the places close to the bay of Ganga and Kashi Vishwanath Temple. They have specialists in gynaecology, internal medicine, and orthopaedics. Interestingly, the orthopaedic surgeon, Dr. N.P. Singh, was trained at AIIMS, New Delhi. Ms. Sita Devi was aware that she did not have any known medical morbidity (problems such as hypertension (HTN), diabetes mellitus (DM) and coronary artery disease (CAD) as she had attended a free health camp 2 months back at the Kashi Vishwanath Temple.

The Kashi Vishwanath Temple is visited by Hindus from all over the world to get a glimpse of the deity of Lord Shiva. Also, people often visit the river Ganges to consign the ashes (*asti*) of their parents or close relatives after their demise. As per Hindu scriptures, there is a belief that after death if your ashes are immersed in sacred rivers like Ganga, you will be able to enjoy happiness for thousands of years in heaven [2].



6.2 Managing Consequences Without Knowing the Cause

"Oh! Lord Shiva, I have a hip fracture", cried Ms. Sita Devi.

"Don't worry, everything will be fine", Dr. Singh replied. Without losing more time, Dr. Singh operated on her as per evidence-based guidelines. Before the operation, a preoperative check-up was performed by the internist and anaesthetist. But considering her condition, Dr. Singh decided to go for surgery without focusing on her functional reserves. The post-operative recovery is always a challenge for the elderly. On her second post-operative day, Ms. Sita Devi became delirious because of low levels of sodium. An internist was responsible for managing the hyponatraemia. Ms. Sita Devi started making irrelevant conversations and sometimes became aggressive too. In fact, the nurse had to tie both her hands and legs, and she was placed on the catheter tube, along with nasogastric, IV fluid and antibiotic. She was unable to recognize her husband, which made Mr. Sharma quite worried. He started visiting the temple frequently to pray for his wife's quick recovery. The waxing and waning course of delirium persisted for almost 10 days, and Mr. Sharma said to one of his friends that these last 10 days had reduced "my life expectancy by 10 years".

> "Doctor is saying that she would recover fully, but she still has severe weakness with on and off disorientation on the twelfth day".

At the age of 80, Mr. Sharma started feeling the need of a progeny as they did not have any children. Although they had tried at an early age, infertility management was not advanced as today, and they did not think adoption to be a sensible option.

Three of his brothers were no more and he was the youngest in the family. Mr. Ramu, one of his childhood friends, was his only support. Sri Ram, the eldest son of his youngest brother, stayed close to them, but he was always busy with his routine temple work. He was one of the priests at Lord Shiva's temple.

Finally, after 3 weeks, Ms. Sita Devi came home. "We didn't have any medical insurance, so I had to withdraw money from fixed deposit and take loan of three lakhs from bank. My pension thus reduced from Rs. 25000 to Rs. 20000". Mr. Sharma was telling me how he was tired of taking care of his wife for the last 4 years (since December 2012). He continued with a pause, "She started doing family chores with little help from Puja, Ram' wife. I thought she would get better. We had appointed a physiotherapist, as the doctor suggested that physiotherapy should be done religiously. We were told that exercise was necessary after a hip surgery as this would improve muscle strength, prevents blood clot in the leg vein, improves cardiac function, prevents recurrent hospitalization, etc.".

Then he told me, "But we didn't know that Lord Shiva had some different plans. I had to suffer so much in this age".

He whispered "It may be because I did some sin in my previous birth".

As per the Hindu scriptures and in many other religions, life is a full circle. It starts from birth, and then you pass through childhood, adolescence, adulthood, old age and death. However, the soul is immortal and it only changes the body. Lord Krishna said the following in the Gita, the holiest book for Hindus (Text 20.2.20; page 91 contents of the Gita summarized by A.C Bhagti Vedanta Swamy Prabhupada):

vasamsi jirnani yatha vihaya.
navani grhnati naro 'parani.
tatha sarirani vihaya jirnany.
anyani samyati navani dehi.

"As a person puts on new garments, giving up old ones, the soul similarly accepts new material bodies, giving up the old and useless ones" [3].

Thus, whether it was Mr. Sharma's sin or a healthcare system that is not yet prepared to provide comprehensive healthcare facilities for its citizens is a question that is yet to be answered.

6.3 Fall Prevention Clinics for Older Adults

Ms. Sita Devi visited the "fall prevention clinic" of Department of Geriatric Medicine, where opinions of multiple specialists were comprehensively analysed by a geriatrician. This was her seventh visit to a doctor after multiple falls and related complications.

For the elderly, "fall" is not merely a symptom but a multisystem syndrome with multiple risk factors that initially requires evaluation by a team of health professionals like an orthopaedician, a psychiatrist, a physiotherapist and an occupational therapist in addition to a geriatrician. Geriatrician/internist must identify the cause and risk factors related to the "fall", followed by a management plan that may require intervention by either a cardiologist or neurologist.

Ms. Sita Devi had a history of recurrent falls after her hip fracture. She fell at various places; she once fell on the road when she was with her husband last year. Fortunately, she has always been saved by the accompanying person. Nevertheless, her falling has become a nightmare for the family.

In fact, after 2–3 episodes of fall, she became slow both functionally and cognitively. "Every fall makes me less confident to walk and work. My leg can betray me anytime". Actually, every fall also made her vulnerable to further fall and injury.

"In these last two years, her life has been restricted to our 200-year-old bungalow bedroom, and the washroom, which is a little far from the bedroom", Mr. Sharma lamented.

Mr. Sharma was depressed and said that, "Doctor, it has become very difficult for me to sustain the family. With just a small piece of agricultural land and a pension of INR 20,000, it is not enough to manage our health expenses".

"I always try to motivate her, but we do not know when she would fall again".

Because of her immobility and lack of walking, her appetite has also drastically reduced.

I was trying to understand her first fall episode as I was unsure whether it was an episode of syncope followed by fall.

"Doctor, I never thought fall is a disease or agony for which your medical science has no solution".

Any type of fall for the elderly must be comprehensively assessed. It starts with the situation in which the individual has a fall whether by accident, by tripping, by hitting some objects or by walking on a slippery floor and post fall injury to the bones and post fall loss of consciousness, which was always there with Ms. Sharma. After the fall, when an individual is lying down in a flat position, there are chances of food particles going into the lungs, followed by aspiration pneumonia. The cause for the fall could be external or internal. For example, an external cause could be the home environment that is mostly modifiable, such as a loose wire, slippery floor in the bathroom or low light. Similarly, an internal cause may be related to (i) neurological problems like Parkinsonism, stroke or dementia; (ii) vascular problems like obstruction of major arteries supplying blood to the brain; (iii) problem of vision and hearing; (iv) rhythm disturbances of the heart; (v) hypersensitivity to some stimulants; (vi) cervical spondylitis; (vii) sudden heart attack; and (viii) weakness of leg muscles.

> "Doctor Chatterjee, we have consulted 5–6 consultants before coming to you. But, nobody enquired so much about the fall. Every time, we were told that it is an age-related problem as she is 75+ and her lower limb muscles are weak and that is why she is having the fall. They checked her ECG, her vision is apparently alright, and hearing is impaired. I gave her a machine for hearing, but she never uses that".

6.4 Fall-Related Complications and Treatment Expenses

Unfortunately, falling is neither recognized as a disease nor included in the undergraduate and postgraduate curriculum of most specialties. It gets recognition only once complications related to falling surface. Otherwise, it is mostly ignored, particularly in elderly females, being considered as an age-related problem. We, the fellow countrymen, spend excessive money on fall-related injuries, particularly fractures. In private sector hospitals, a hip surgery costs 5–20 lakhs rupees for an individual, whereas in a government hospital, it costs 2–3 lakhs rupees from the exchequer's money. However, recovery from hip-related fracture in older adults is always difficult, and even after recovery many of them are unable to live on their own. Complications related to hip fracture range from a delirious state to functional decline, frailty and death. Thus, any type of fall in the elderly must be considered seriously and should be evaluated by doctors to identify the actual root cause (Fig. 6.1).

As per the Centre for Disease Control and Prevention, >300,000 elderly people in America (>65 years) are admitted in hospital for hip fractures each year. Out of these admissions, >95% of hip fractures are caused by falls [4]. Also, 75% of all hip fractures are experienced by women as they are more prone to osteoporosis, a disease that weakens bones and makes them easily breakable. Because of the high prevalence of osteoporosis in older Indians, fall-related hip fractures can have a multiplier effect on the overall health [5]. According to the WHO factsheet, "fall" is second among the leading causes of accidents and injuries. Injuries, particularly

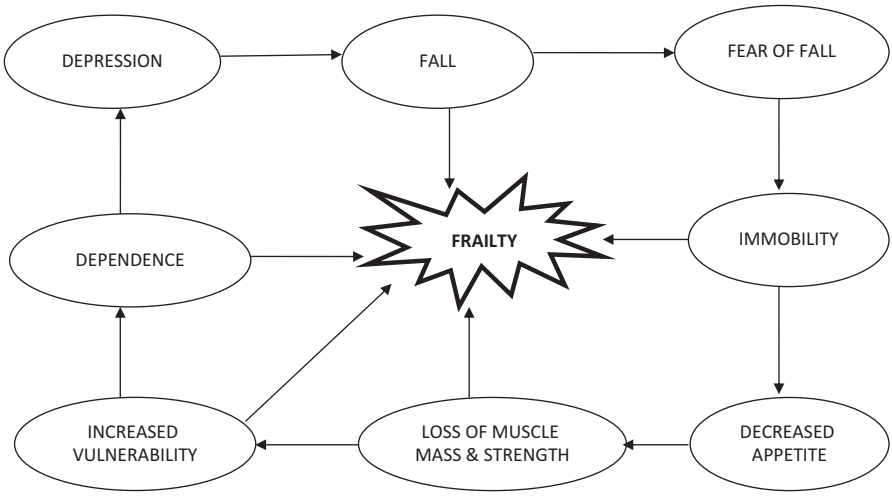


Fig. 6.1 Vicious cycle of fall and frailty. (*Source*: Author)

those caused by falls, are the fifth most common cause of death for elderly people, more so in those aged >65 years [6].

When an elderly person experiences a fall, very few people have interest in knowing the reason behind it. If they find the fall has led to a major problem, all they do is to consult an orthopaedician. Also, if there is no head injury, people tend to ignore such fall, regardless of how the victim feels. A fall in the elderly even without any injury can invariably reduce their confidence and mobility; they could develop a fear of falling often, which has its subsequent consequences too [7].

Point to note is that fall is a known risk factor for recurrent hospitalization [8], delirious state, vulnerability and depression; moreover, as per a WHO study, prevalence of fall in older adults is between 14 and 51% (Fig. 6.1) [9].

6.5 Fall: A Preventable Agony for Individual

According to the US Centers for Disease Control and Prevention, one in four Americans aged 65+ falls each year [10]. Also, it has been documented that for people who are >65 years, the total cost for fall related injury was approximately $50 billion in 2015 [11]. In India, the amount spent is much more considering the absolute number of elderly people is more than double compared to the American population. But these facts have not attracted the attention of policy-makers. It becomes important to note here that preventing a fall would not only save the elderly

adults from agony but also be beneficial to the national health economy. In fact, fall-related causes are mostly preventable through minimal modification of the home environment.

Many of us are very happy to have the most shining floors, but they are also very slippery. Our well-furnished bathrooms with the latest designer sinks and related accessories lack the basic necessity of a grab rail. Most of the houses have loosely fitted carpets and wires, creating obstruction while walking. We do not dry out the bathrooms and often try to save electricity by switching off lights in the bathroom at night. All such factors contribute to chances of fall among the elderly people. We can save considerable resources only by spending a meagre amount of Rs. 200–500 and adding a grab rail or turning on a night bulb in our bathrooms (Table 6.1).

The worst culprit is the side effect of medicines, particularly sleeping pills. Imagine a patient suffering from high blood pressure who takes sleeping pills on a regular basis. Because of the pill, the person would keep feeling drowsy, and when he/she would wake up to use the restroom, the chances of fall are considerably high.

My team undertook a comprehensive geriatric assessment (head to foot assessment) of Ms. Sita Devi and asked her questions related to the functionality of various organs. A very simple screening tool, which can be used by primary healthcare physicians or by paramedics in any setting, is the TUG test (Timed Up and Go test), in which an individual has to sit in an armless chair, stand up and then walk 3 m and come back and sit. The observer would note the time taken using a stopwatch [12]. Ms. Sita Devi took 22 seconds to complete the entire process, which means she had a considerable risk of fall. Generally, the TUG score should be <13.5 second; if it is more than this, there is a high risk of fall [13]. Thus, we admitted Ms. Sita Devi for a detailed evaluation to identify the cause of fall. All investigations were repeated, particularly the carotid and vertebral artery's Doppler scan, ECG and lower limb muscle strength by the leg raising test.

For our procedure, we also performed HUTT (head-up tilt test) to rule out neurally mediated syncope and 24 hr Holter to examine the cardiac rhythm disturbance.

Table 6.1 Risk factors of falls [6]

Intrinsic factors	Extrinsic factors
Age, gender, and race	Behavioural (use of multiple medicines, excessive alcohol intake, lack of exercise, inappropriate footwear)
Physical and cognitive decline	Environmental (poor architecture, slippery floor or stairs, loose rugs, insufficient lighting, cracked and uneven sidewalks)
Chronic illness like diabetes mellitus with peripheral neuropathy, dementia, Parkinson's disease, depression, etc.	Socio-economic (low income and educational levels, inadequate housing, lack of social interactions, limited access to health and social services, lack of community resources)

6.6 Syncope and Its Implications

Ms. Sita Devi was suffering from a cardiac rhythm disturbance. Sick sinus syndrome is a group of disorders that have an abnormal heart rhythm caused by malfunctioning of the sinus node, leading to sudden blockage that gets normalized. A probable cause of her recurrent fall was syncope, which is the temporary loss of consciousness because of global decline in the brain's perfusion for a brief duration [14]. Syncope is characterized by sudden onset, short duration and spontaneous recovery [15]. Patients like Ms. Sita Devi visit the emergency departments because of fall-related complications. The basic physiological mechanism responsible for syncope is the decreased oxygen flow to the brain. The continuous flow is necessary for consciousness, which is dependent on the cerebral blood flow and its oxygen content too. In elderly patients, 33% of syncope-related cases are because of cardiac disorders; moreover, there is a higher morbidity and mortality associated with cardiac syncope [14]. Also, syncope is more common with increased ageing and related conditions. A systematic approach to syncope is required to understand the underlying cause of syncope, and pragmatic management is recommended.

Age-related changes such as altered baroreflex sensitivity; impairment in the heart rate, blood pressure, blood volume and cerebral blood flow; as well as multimorbidity and geriatric syndrome are responsible for the high incidence of syncope in the elderly population. Blunted baroreflex sensitivity, which is responsible for controlling the heart rate, leads to a reduction in the heart rate's response. Because of excessive salt excretion by kidneys, elderly individuals are prone to decrease in the overall blood volume. Thus, the reduced blood volume and association with age-related heart dysfunction lead to low cardiac output with inadequate heart rate responses because of stress, which subsequently leads to orthostatic hypotension [16].

In Ms. Sita Devi's case, we placed her on a pacemaker (cost was subsidized), which solved the issue of fall for the rest of her life. She has not had a fall in the past 2 years; counseling and effective management have given her confidence, and she started walking along with improvement in her muscle mass strength because of adequate nutrition and physical therapy. Furthermore, we could also alleviate the problem of Mr. Satya Sharma who was the only caregiver and had been suffering from reactive depression because of the vicious cycle of fall, immobility, generalized weakness and economic loss. Now, he is much better and has started going for his daily puja and chanting in front of the Holy Ganga.

6.7 Deleterious Effects of Fall

The end is not always well for everyone after a fall. I once received a call from the then Additional Secretary of the Ministry of Renewal Energy, Ms. Ruchika Dadhwal, who hails from an affluent family with four out of five siblings being Senior Officers

in various other departments. “Hey, Dr. Prasun, My father had a fall and is now speaking in an irrelevant manner. Shall I bring him to you at AIIMS? I spoke to the Director for the provision of a private ward. Please could you do the needful”.

I had known this family for the past 5 years.

Mr. Kameshwar Dadhwal was a well-known historian associated with a public publishing company and was completing his autobiography. He had written many books on various communist and social activists of India. In fact, he was mentally agile and physically active till his 85th birthday. He was staying with his youngest daughter Ms. Ruchika, her husband and their only son Anup, in a bungalow at New Motibagh, New Delhi. It is a well-planned colony for bureaucrats but has no facility to prevent fall and has a slippery floor without railing bars in the bathroom. Being dog lovers, they also have a Dalmatian named Sultan in the family. I had met her through Prof. Dey at a meeting. She had a keen interest in elderly care and had an experience of working with the Ministry of Health.

Two years ago, I had a long chat with Mr. Dadhwal when he had an atypical complain of tiredness and mental fatigability. Despite extensive investigations there was no positive diagnosis to explain his breathlessness. Doctors as well as their elderly clients try to level it as an age-related problem when there is no organ-specific diagnosis.

From his life history and comprehensive geriatric assessment, I understood that his expectations and aspiration from life were not matching. He was a voracious reader and a prolific writer. But recently, one noted publisher did not accept his book for publication, probably because he was taking a very long time to complete the manuscript, which was an immense trauma for him. He had chronic obstructive pulmonary disease (COPD) for the past 20 years as he was a cigar smoker. Although his pulmonologist had managed his COPD with an adequately metered-dose inhaler, his mood disorder was not considered.

He informed me, “You know Dr. Prasun, the internist told that it may be a transient phase and I would cope well with this. He rejected the need for psychiatric evaluation even if I insisted on that”.

Elderly care physicians or primary care physicians should have sensitization about “how mood should be assessed in elderly patients”. A simple assessment and validated tool like geriatric depression scale (GDS-5) contains only five questions: (i) Are you basically satisfied with your life? (**No/**Yes); (ii) Do you often get bored? (No/**Yes**); (iii) Do you feel helpless? (No/**Yes**); (iv) Do you prefer to stay at home, rather than go out and do things? (No/**Yes**); and (v) Do you feel pretty worthless the way you are now? (No/**Yes**). This assessment does not take >5 min and has >97% sensitivity with 85% specificity [17]. Studies have suggested that depression in the elderly mostly remains underdiagnosed and undertreated. The symptoms of anxiety and depression, such as apathy, lack of sleep [18] and mood swings [19], are common symptoms that could be caused by the physiological change during the ageing process.

Mr. Dadhwal improved with low doses of the antidepressant, paroxetine (12.5), which he had to take once daily for a month after initiation of medicine. He regained his confidence, his writing skills improved, and he has been on my regular follow-up since the past 2 years.

He also started brisk walking, which has been his routine for the last 30 years. However, he never mingled with few of the nonagenarians staying at the campus. Books have always been his best friends. After his grandson, Anup, left for further studies, their dog, Sultan, joined him for his morning fitness sessions. His balance and gait speed improved as per his daughter's statement. I have gradually minimized his multiple medicines to a minimal dose of essential medicines. Previously, he was on multiple drugs for COPD, hypertension, generalized muscle weakness and non-ulcer dyspepsia. However, to prescribe more than five medicines to an individual aged more than 80, one should have evidence-based knowledge along with the understanding of precision care. I decreased the antidepressant gradually after 6 months and stopped it later because long-term usage of antidepressant has a risk of developing hyponatraemia, which can lead to fall. But he could not abstain himself from his 20-year irregular practice of anxiolytics in the form of alprazolam (0.25–0.5). I tried to repeatedly counsel him and advised him to not take sleeping pills. In fact, long-term usage of sleeping pills or any central nervous system (CNS) depressants can act as a risk factor for fall and future cognitive impairment too [20]. I inoculated him with routine vaccination against pneumonia, flu and herpes zoster. He was on supplements for calcium and vitamin D too. As per our physiotherapist's assessment, his lower limb muscle was alright, and he had no risk of fall as per the TUG score. But, Ruchika was not very comfortable after the last visit with her father.

He shared her concern with me, "Dr. Prasun, I think my dad will not be able to complete his book. I am trying to help him but he is so independent and doesn't take any help. I told him not to go for brisk walk with Sultan as the roads are not safe these days. There are no elderly friendly roads in most part of this country though we talk about smart city".

"Nowadays, I see my father is mostly not in his usual state. He flips from one topic to other and gives response only to very minimal things. He only mingles with Sultan. We are trying to provide him as much support as we can. Actually, Anup left for US after getting admission into Harvard Medical School, which dad didn't want at all".

"Can't you call Anup for a few days?"

"No, Dr. Prasun. He is in the middle of his semester. It is difficult for him to come back now".

I was listening and thinking whether Mr. Dadhwal had developed cognitive slowness, which probably he was unable to accept.

I was explaining to Ms. Ruchika about how people with cognitive slowness react in the initial stages. They may feel embarrassed or frightened when they recognize changes in their memory or thinking. The doubt and concern of family and friends make them more resistant to accept this change. It is likely that they will fight to keep up the façade of "normality" and seem to use every opportunity to exercise the control they feel they are losing [21].

From his medical history, I understood that he has developed minimal cognitive impairment. During his last OPD visit, despite my request, he did not allow us to do an assessment for cognition.

6.8 Post-Hip Surgery vs Conservative Management

Mr. Dadhwal was admitted to AIIMS on 19 August 2016 under the care of Geriatric Medicine. Orthopaedic surgeons, Prof. Abhinash Dubey and Prof. Asif Seraj had gathered along with me and Professor Dey to see him. Ms. Ruchika was working with AIIMS as financial adviser on behalf of the Ministry of Health. So she managed to immediately get the entire team.

Mr. Dadhwal had a fall at night, around 3 AM when he woke up to go to the washroom. The night caregiver had been on leave for 2 days. Ms. Ruchika asked him whether she could be with him, but he only permitted their dog, Sultan, to be with him. In fact, a month ago, he had completed his 90th birthday. He had developed subclinical frailty with multimorbidity, hypertension, insomnia and benign prostate hypertrophy. So, he had to wake up twice at night. He was on high dose of alprazolam (1 mg) for insomnia. After the fall, he was flat on the floor for a couple of minutes as he was unable to lift his body weight (that would be around 95 kg) himself. Sultan took some time to inform other family members; however, by that time probably he would have aspirated.

He was already delirious on admission. The latest X-ray suggested a fracture in the left hip and infiltration in lungs. We had ruled out external or internal bleeding in the brain after a CT scan. However, we did not know the cause for the recent onset of mild anaemia (haemoglobin of 10 g/dl) as his usual blood Hb was 12 g/dl. All of it combines made the scenario quite complicated.

Professor Asif was not very keen on surgery because of the recent degradation in his functional status, multimorbidity, poor cognitive reserve and lower respiratory tract infection (LRTI). But, Dr. Dubey and Dr. Dey wanted immediate surgery based on the evidence. For cases of hip fracture, conservative management is rarely indicated; rather surgical management is the norm. It is known that surgery decreases morbidity and mortality, controls pain and promotes early mobilization. Most patients with complex fragile fractures already have comorbidities and polypharmacy; therefore, they require a multidisciplinary approach. In fact, hip fractures if treated surgically within 48 h of admission yield better results. In the cases of hip fracture, immediate surgery is suggested irrespective of the chronological age and functional status of the patient [22].

A big challenge for the health system is the timing of surgery. It involves prehospital emergency coordination, trauma, geriatric medicine services, anaesthesia team back up, other than administrative support [23]. Ideally, surgery should be performed on the day, or the day after, admission. Also, to avoid delays in surgery, it is essential to identify and treat reversible comorbidities as soon as possible.

But, the current scenario was a little more complex. Mr. Dadhwal's present cardiac workup was normal. We transfused one unit of blood to him. The anaesthetist gave clearance with a high risk. We were unsure about the cause of his delirium, whether it was because of his aspiration pneumonia, recent stress or pain due to the hip fracture. There was a prolonged discussion among Ms. Ruchika, her brothers, the two orthopaedic surgeons, Dr. Dey and me.

Dr. Dey initiated the conversation, “Kameshwarji was doing well as per your history till last week. He had the ability to go for brisk walk with Sultan”.

“Yes, but he was not brisk. He was not attentive too. He was very keen to complete his autobiography”. Ms. Ruchika interrupted.

“His writing was not relevant many a times and he had fluctuating mood and sudden outburst of anger”. Ms. Ruchika continued.

One of Ruchika’s brothers asked me, “What is the cause of his low haemoglobin? Will it hamper the surgery?”

“We are unsure about the exact cause of this mild anaemia, it needs evaluation. It is not too low to affect the prognosis of the surgery”. Dr. Dey said.

“Dr. Dey, what do you think is the cause of his chest infection?” Ms. Ruchika enquired.

Dr. Dey explained that the probable cause could be aspiration peumonitis, which is most common or may be because of aspiration of the food material that might have entered in his windpipe when he was lying on the floor for a couple of minutes. But, he assured that Mr. Dadhwal’s respiratory parameter was within acceptable range. Furthermore, he did not have low or elevated temperature, high blood count or any other signs of infections, sepsis or organ failure.

However, Professor Asif was not convinced, “Considering his age, morbidity status, obesity and poor cognitive reserve, I would recommend a conservative approach for him”.

Thus, the scenario was not only complex but highly unpredictable because of the prognosis after the surgery. Dr. Dey tried to explain that Mr. Dadhwal was not physically frail, his organs were functioning well, and most of his multimorbidity was under control. He only had mild anaemia, which could be overcome with two units of blood. So, he suggested, “I think we should go for surgery, which may solve many of his problems”. He also added, “We don’t know, this delirium may be due to pain and pain reduction will be maximum with surgery”.

Professor Dubey seconded Dr. Dey but the progenies were confused. Ms. Ruchika’s oldest brother, who was a retired bureaucrat from Indian Foreign Services with adequate exposure to practices in developed nations, raised the issue of his father’s dignity.

He said, “Dr. Dey, I think considering the complex nature of the situation I feel we should go for the pain management and conservative therapy. We shouldn’t make him suffer further”.

Ms. Ruchika was not convinced about the decision and had a chat with Dr. Dey. They discussed various issues such as probable complication without surgery and the most common fatal complication of hip fracture such as primary thromboembolism [24] with 90% mortality. Furthermore, pain management was almost impossible without surgery and anaemia, possibly because of blood loss from the hip fracture. But considering the age and morbidity profile, post-operative complications could be high.

To rule out active blood loss, we took MRI of the hip. Mr. Dadhwal continued to be delirious and his chest symptoms persisted. In fact, two units of blood could not improve his haemoglobin level. He was placed on surface traction as per Professor Asif’s recommendation. We also followed some other supportive measures such as

(i) preventing deep vein thrombosis (DVT) by using compression elastic stockings; (ii) administering low-molecular-weight heparin; (iii) regular doses of multiple antibiotics; (iv) using a proton-pump inhibitor to prevent stress ulcers; and (v) paracetamol for pain through Ryles tube feeding and catheter. After 72 h, it seemed that he had some relief from the pain. So I reduced the dose of paracetamol. A fentanyl patch was continued locally as we are aware that immobility begets immobility and related complications. The caregivers spent a lot of time with him and interacted many a times with us for additional clarifications. But we had lost the golden hours and practically the decision was not easy. When working in a team, the value of individual opinion is very minimal, and sometimes we do not take the right decision too. Moreover, pressure from caregivers also matters when managing a critical patient like Mr. Dadhwal.

"I think he should have been operated, what do you think Dr. Prasun?" Ms. Ruchika asked me on the seventh day of his admission.

I mentioned, "The decision was not easy and even difficult to say whether he might have succumbed on the operation table itself considering his poor cognitive and functional status. Also, anaemia and obesity are poor prognostic markers for short-term and long-term mortality in peri-operative patients".

"You know he was very keen to complete his autobiography", she was sobbing.

6.9 The Divine Relationship of a Daughter and Father

I understood that Ms. Ruchika was very much close to her father, which is probably a divine relation. There has been a pragmatic shift in the traditional culture of parents staying with their son. Daughters who are now working and independent prefer to cater to their parents in their later life too. Also, parents are more comfortable to be with their daughters [25].

Ms. Ruchika was crying as she said, "You know Dr Prasun, my father used to say that my mother was very sick after delivering me. As she had some infection at the operation site, I was looked after by my father. I used to be with my mother only while breast feeding. He used to say with a lot of pride and happiness that he cleaned my meconium (first stool passed by a new born baby). He was the most important pillar of my success, my lifelong friend! We wrote a book together on Dr. Vinoba Bhave, which was recently published. Yesterday, whole night, I was sitting at his head end looking at his eyes, which were closed but he looked very serene. I was thinking about my childhood".

I remained speechless and allowed her emotions to sink in. One of our final-year junior residents, Dr. Raj Kamal, was appointed almost for 24 h to take care of Mr. Dadhwal. Ruchika was very much impressed with his clinical accuracy, compassionate care and vivid explanation of the patient's condition.

"Your junior resident who is probably going to complete his third year of residency is excellent. He explained many things to us. He is regularly monitoring the blood electrolytes. Also, my brother called the doctor who treated him during his last hospital admission in Baroda".

So, I had a chat with that doctor too. He also seconded our treatment plan.

In the meantime, I received a call from Dr. Raj, "Sir, his saturation is falling".

I rushed with Ms. Ruchika to see him. "The count has increased the chest symptoms too", Dr. Raj informed me. As the patient had become very aggressive, we had to put him on a low dose of haloperidol. We had already discussed with all family members, including Ms. Ruchika, to not put him on ventilator. It was good that they accepted our idea of do not resuscitate (DNR) and all four sons and daughter signed on the hospital registry for that. To verify if there is pulmonary thromboembolism or any other cardiac issues, I requested for arterial blood gas (ABG), electrocardiography (ECG) and troponin T. It was not thromboembolism but there was haematuria (blood in urine). Ms. Ruchika, who was most aggressive to manage her father, was also of the opinion to not make her father suffer more by putting him on a ventilator. Ms. Ruchika could not speak more on that day. Also, all family members were by Mr. Dadhwal's side to be the part of the agony.

At Nigambodh Ghat, where Mr. Dadhwal was cremated, I had been introduced with certain other eminent writers. Ms. Ruchika praised our care, but still was in doubt, whether the best possible care had been provided. She said, "He should have completed his book".

In fact, the bereavement persisted for the next 6 months after his demise. She used to wake up in the middle of the night and dream about her father's state during his hospitalization.

In a discussion with one of Ruchika's brothers, he mentioned, "My father was a great man. He had received the Padmashri and Padmavibhushan (second highest civilian award of the Republic of India) too for his literature. But, dying surrounded by next generation and receiving their compassionate care till the last breath is one of the wishes of any older adult, which unfortunately destiny doesn't always permit". Probably, his family being besides him in his last moments was his highest achievement. In later life, falls do not receive adequate attention from family members, policy-makers and healthcare providers in India compared to other western nations. Falls are a frequent cause of unintentional injuries in older adults. They have a significant impact on the individual, family and the society at large. They are arguably one of the leading causes of reduction in functional capabilities, increased dependency worsening in the quality of life and injury-related deaths. Loss (or near-loss) of consciousness after falls, unexplained falls, fracture after falls and/or recurrent falls (more than once) are definite indicators of detailed evaluation, particularly cardiovascular assessments. Prevention of falls should always be a priority, and causes leading to them should be understood by patients and caregivers. As mentioned in the previous two stories, falls lead to disability, reduced mobility, increase in dependency, social isolation and psychological problems, such as fear of falling, anxiety, loneliness and depression. So to train undergraduate and postgraduate students about the importance of assessment of falls and recognizing the various causes of falls and syncope, medical education must be geared up and improved. In fact, healthcare professionals should take the lead to spread awareness to elderly patients who are always at a risk of falling. In particular, their home environment should be made more comfortable with appropriate modification in the form of high-rise toilets, railing bars, anti-skid floors and maintenance of dry bathrooms with proper

lighting. In the long run, the society's approach towards age-friendly colonies would be more cost-effective. Family members must attend to their seniors who have dementia, frailty, immobility or depression with higher chances of falls. Ultimately, the informal caregivers have to manage post-fall complications of their senior members.

From an individual's perspective, preparation for a healthy later life, one needs to focus on ensuring functional capacity through various aerobic, balance and resistive training exercises along with stretching, suggested by a physical therapist and maintaining a healthy diet for muscle mass and strength. Vitamin D supplements under a doctor's supervision along with multiple exercises, such as progressive resistance exercises, strength training and cognitive/behavioural intervention, have shown to help in preventing falls with multiple trials [26]. In 26 trials with 45,782 participants, most of whom were elderly and female, vitamin D use was statistically shown to cause a significant reduction in the risk of falls [27].

So, it is never too late to start exercising as per your capacity. *After all no one would like to fall from independence, autonomy and healthy ageing to dependence, immobility and a poor-quality late life.*

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