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## 14.1 Historical Context

The Latin verb ‘delire’ (to be deranged, crazy, out of one’s wits) appears in the Coventry mystery plays in 1400. Other accounts from literature include Shakespeare’s death of Falstaff (a babbled of green fields), Lady Macbeth sleep-walking and Tolstoy’s depiction of Anna Karenina’s post-partum delirium [1].

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## 14.2 Core Features

Many terminologies have been used interchangeably for delirium, such as ‘acute confusional state’, ‘acute organic brain syndrome’, ‘acute brain failure’ and ‘post-operative psychosis’. The definitions may embrace all varieties of acute organic reactions, sometimes referring to the degree of overt disturbance or confine the term to a clinical picture with specific features. The Oxford English dictionary defines delirium as a ‘disordered state of the mental faculties resulting from disturbances of the functions of the brain, and characterized by incoherent speech, hallucinations, restlessness and frenzied or manic excitement’. The NICE guideline for delirium [2] describes delirium as a ‘common clinical syndrome characterized by disturbed consciousness, cognitive function or perception, which has an acute

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onset and fluctuating course.’ It emphasises that delirium is a serious condition and associated with poor outcome, but that it could be prevented and treated if dealt with urgently.

The broad characteristics of delirium have been well documented: wakefulness with ability to respond verbally, increased psychomotor activity, pronounced disturbance of affect, defective reality testing or symptoms such as delusions and hallucinations [2]. In the UK, delirium predominately has been used to describe patients suffering with acute confusion and who present with disturbed or disruptive behaviour; however, not all patients with delirium present with these symptoms, and patients can be quiet with dulling of senses: hence the use of terminologies like ‘hypoactive’ or ‘mixed’ state. The consciousness is not merely quantitatively reduced in delirium, but also qualitatively changed. The patient becomes preoccupied with his own inner world and commonly has illusions, hallucinations and delusions. The clinical condition typically fluctuates, and even though awareness of external events is impaired, arousal may be high, enabling these productive symptoms to occur. It has been also suggested that toxic and metabolic disturbances are more likely to be associated with listlessness and apathy, whereas infective processes and alcohol withdrawal are associated with hyperactivity, fearfulness and prominent hallucinations [3].

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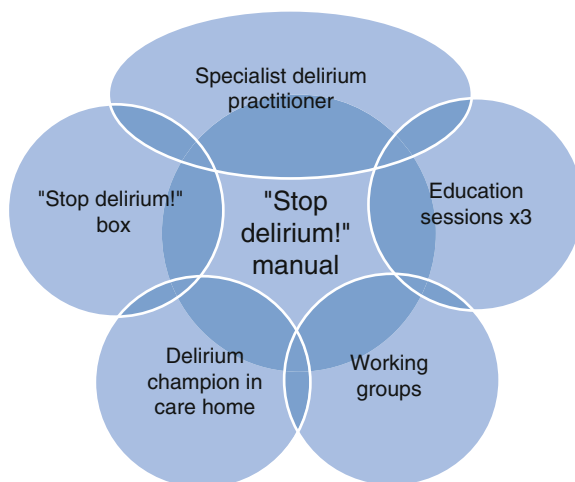
### 14.3 Prevalence of Delirium

A number of studies have investigated the incidence and prevalence of delirium in older patients on medical wards. It has been reported that 11–24 % patients present, at the time of admission, with symptoms of delirium, while these symptoms may develop in another 5–35 % of patients during their inpatient admission [4]. Delirium has been documented in 16–62 % of patients following hip surgery [5] and as high as 70–87 % patients in intensive care units [6]. The incidence of delirium occurs at a higher frequency in patients with pre-existing cognitive impairment amongst hospitalised patients. In the community, the prevalence of delirium has been reported to be 0.4–1.1 % of elderly patients living in residential care home settings [7].

Delirium can have adverse consequences; thus, the diagnosed patients in general hospitals have overall high morbidity and mortality due to a high risk of dehydration, malnutrition, falls, continence problems and pressure sores. The in-hospital diagnosed delirium has a 1-year mortality of 35–40 %, high readmission rate and increased risk of admission to residential care (47 % vs. 18 %) [8, 9]. Approximately a quarter of elderly medical patients with delirium will die within 1 month of its onset [10]. This risk of mortality increases by 11 % for every additional 40 h of non-treated delirium [11]. Delirium may also be an accelerating and possibly a causal factor in the development of dementia (Fig. 14.1).

The National Institute for Health and Care Excellence highlights that the reporting of delirium is poor. They also suggest that there are two areas of improvement which are: raising awareness of delirium amongst clinicians and the need for reporting delirium when identified.

**Fig. 14.1** “Stop delirium!” project [39] (Courtesy of Dr. Najma Siddiqi)



## 14.4 Identification and Assessment of Delirium

The clinical presentation of delirium incorporates a range of clinical features that are listed in Table 14.1, while its two core symptoms are cognitive impairment and disturbance of the sleep-wake cycle [1].

Although “clouding of consciousness” has been described as a classical sign, in clinical practice its importance is questioned, as old people can be drowsy if they are uninterested in their environment, have been awake overnight or are/had been sedated [1]. It may be difficult to separate “clouding of consciousness” from impaired cognition.

Perceptual disturbances are usually present in the form of visual hallucinations (such as insects, strange people, shadowy presence, fronds that cannot be brushed away) or illusions (e.g., flecks on the wall, or a pattern on the bedclothes being perceived as mites, moving ants or beetles) [1].

Patients may experience distortions, with either increased, diminished or distant sights and/or sounds. Furthermore disturbances of body image are not uncommon, with patients complaining that some body parts have shrunk or enlarged, or there may be a sensation of floating. The sense of time is also distorted, as a day may seem like a week and a week like a few hours. What complicates the whole picture is that a patient may have insight into their symptoms and fear that they may be regarded as ‘mad’.

Logic, reason and judgement are all jeopardised by delirium and ‘getting hold of the wrong end of the stick’ is the basis for the development of paranoid delusions. Conversations that could almost make sense under normal circumstances often may be hard for a patient with delirium to follow. Speech may be rapid, hard to follow, hesitant, repetitive, stammering, laboured and not articulated well and may resemble that of a drunk person [1].

**Table 14.1** Clinical features of delirium: ICD10

|   |
|---|
| Disorientation in time, place and person  |
| Symptoms have rapid onset and show fluctuations over the course of the day  |
| At least one of the following psychomotor disturbances is present: rapid, unpredictable shifts from hypoactivity to hyperactivity; increased reaction time; increased or decreased flow of speech; enhanced startle reaction  |
| Disturbance of sleep or the sleep-wake cycle, manifest by at least one of the following: insomnia, which in severe cases may involve total sleep loss, with or without daytime drowsiness or reversal of the sleep-wake cycle; nocturnal worsening of symptoms; disturbing dreams and nightmares, which may continue as hallucinations or illusions after awakening |

Many patients experience memory impairment in the acute phase of delirium, with registration being affected, due to the inattention and distractibility. The recent memory appears to be more affected than the remote, and this contributes to the disorientation found in delirium.

Psychomotor disturbances can be in the form of excitement or agitation, but more commonly the patient becomes apathetic and inactive especially in old age. In the hyperactive state, patients may appear hyperalert, scanning their environment and demonstrating agitated behaviour which can make care difficult, for example, pulling out intravenous lines and catheters, and even striking out at staff. A patient in a hypoactive state will be less alert with slowed motor movements, decreased pace of cognition and verbal responsiveness [12].

Delirium most commonly presents as mixed state, with periods of both hypoactivity and hyperactivity within a matter of minutes or hours [13, 14], and furthermore the hypoactive delirium is associated with a poor outcome [14]. The hypoactive (reduced psychomotor activity) subtype is more common than the hyperactive subtype and is often under-recognised. The obvious lack of noticeable agitation, psychosis and disruptive behaviour may mean that an observer or a carer may take little notice of an elderly patient who is causing no management problem.

Table 14.2 illustrates a useful mnemonic to illustrate the clinical features of delirium.

Emotional disturbances in the form of apathy are the most commonly described; however, anger, irritation, terror, apprehension, bewilderment and even euphoria can also be seen. The fluctuation in symptoms, severity and level of arousal is common and makes the diagnosis challenging. Symptoms are often at their worst in the evening and at night and might be referred to as ‘sun-downing’, particularly in individuals with underlying dementia [15].

Disorganised thinking and disturbance of perception in the form of illusions and hallucinations are common and can occur in up to 40 % of patients. Hallucinations are usually visual, ranging from dreamlike experiences to terrifying visions of dangerous animals and bizarre images. Less frequently, hallucinations involving other modalities can be present such as auditory or taste. Delusions are typically of paranoid in theme, for example, the patient is commonly worried that the staff are poisoning them or intending them harm.

**Table 14.2** Physical: mnemonic for the clinical features of delirium

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**P**erplexity: due to acute onset of delirium, the patient is often bemused and bewildered, which may better distinguish it for dementia than, say, clouding of consciousness

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**H**allucination: mainly visual

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**Y**awning: by day, due to lack of sleep at night

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**S**uspicion: misapprehensions and frank delusions, secondary to cognitive disorder

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**I**llusions: distorted perceptions

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**C**ognitive impairment: memory, communications, comprehension, judgement

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**A**pathy or **A**gitation: psychomotor disturbances

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**L**ability of mood: laughter, tears, anger, terror

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Adopted from “Seminars in old age psychiatry” with permission [52]

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## 14.5 Aetiology of Delirium

The development of delirium, results from complex interwoven multifactorial pathophysiological factors as illustrated in Table 14.3.

These factors include, brain insults, e.g., hypoxia with aberrant stress response and excess cortisol along with exaggerated central nervous system inflammation. Relative cholinergic deficiency and dopaminergic excess can partly explain why one person will suffer from delirium, but not another. However, whether these are predisposing or precipitating factors or merely an epiphenomenon requires further clarification.

It was shown that existing neurodegenerative pathology is associated with greater susceptibility to delirium secondary to an exaggerated response to systemic and CNS inflammatory signals due to factors such as microglial, priming and synaptic loss at key areas of the brain (such as the hippocampus), which in turn are associated with heightened and more prolonged transcription of inflammatory mediators [16]. Biomarkers can provide better understanding of the pathophysiology of delirium, and they also allow more accurate detection and assessment of the illness severity as well as monitoring the response to treatment. Studies so far have taken into account other confounding factors such as age, prior cognitive function impairment, including dementia and severity of morbidity, hence aiming in identifying people at risk of developing delirium in any setting. In the literature, EEG has been described as being potentially helpful in identifying delirium suggestive neuro-electrical activity; however, practicalities of doing an EEG on a delirious patient limit its widespread use [17].

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## 14.6 Diagnosis of Delirium

There is a common consensus that delirium is under-diagnosed in clinical practice [2, 18]. It is suggested that between one and two thirds of delirium cases do not get recognised and diagnosed [19], mainly because, the hypoactive form of delirium

**Table 14.3** Predisposing factors

|  |
|--|
| Ageing or neurodegenerative disease of the brain                             |
| Impairment of vision and hearing   |
| Reduced synthesis of neurotransmitters (especially acetylcholine)            |
| Changes in pharmacokinetics and pharmacodynamics                             |
| High prevalence of chronic diseases and high susceptibility to acute illness |

Adopted from “Seminars in old age psychiatry” with permission [52]

can be easily missed; the clinical appearance of the syndrome may fluctuate and there could be an overlap with dementia. Clinicians may lack awareness of delirium, particularly on general medical and surgical wards, and may not possess the skills to diagnose and manage delirium. In addition, multiple ward transfers, staff shift patterns and understaffing can all contribute to delirium being underdiagnosed. Delayed detection or failure to diagnose are both associated with poor outcomes including high mortality [20].

Improving delirium detection should focus particularly on increasing staff awareness of less obvious presentations, such as those that involve hypoactivity, as they are easily mistaken for ‘fatigue’ or ‘frailty’ in the seriously unwell or post-operative patients. The acute phase of delirium is preceded by what is described in the literature as “prodromal phase” during which early detection and prevention of transition to full syndrome illness can be achieved [21]. This prodromal phase could include symptoms like anxiety, general malaise and a variety of non-specific complaints, deterioration in cognitive function, reduced pain tolerance and simply ‘patients not being themselves’ [21–26]. This shows the importance of knowing the patient’s pre-morbid personality.

The importance of eliciting a good collateral history cannot be over-emphasised, as the observation of the people around this seems to be more important, since the patient may not be able to give a clear account of their problems. Observing, monitoring and recording the patients’ overall level of arousal throughout the interaction could be considered equally important as baseline vital signs observations.

In general, delirium detection is a two-stage process involving initial screening with the help of a brief, simple and sensitive instrument as described below, followed by a formal diagnosis using the ICD10 code which is of high specificity for identifying delirium. Simple tests which have high sensitivity and relative specificity for diagnosing delirium, such as attention, digital spatial span, “serial seven” or naming months backward, can all be used as initial screening tools [27]. The second stage of assessment involves the confusion assessment method which is a delirium-specific tool and includes a series of parameters like the acute onset inattention, disorganised thinking, altered level of consciousness, disorientation, memory impairment, perceptual disturbances, psychomotor agitation or retardation and altered sleep-wake cycle as its main components [28–30]. This could be followed by formal assessment for delirium by applying ICD-10/DSM-IV for patients who screen positive from the first stage.

Cognitive tests for delirium (CTD) and delirium rating scales (DRS) tools, have been proven to be very useful in distinguishing delusion from other neuro-psychiatric conditions such as depression and dementia [31, 32]. Other structured cognitive

screening tests such as the MMSE or the abbreviated mental score can also be used to test patients' cognition; however, often patients find it difficult to engage and complete these tests. There are some other tests of attention that can be used, such as asking patients to name the months of the year, or the days of the week in reverse, or asking the patient to spell their last or first name backwards, or to perform a serial subtraction (counting backwards) from 100. Deficit in attention, recall and orientation in the setting of an acute change in mental state is very suggestive of delirium. Gathering collateral information from the family, relatives, spouses or other carers is vital. Comprehensive physical examination may uncover signs suggestive of an underlying cause for the delirium, and it is also important to remember that patients, particularly the frail and elderly ones, may have multiple causes of delusion, active at the same time.

Investigations such as full blood count, urea and electrolytes, blood glucose, liver function and thyroid function tests, an MSU (midstream specimen of urine) and, possibly, a chest X-ray may be indicated for diagnosing any underlying acute illness contributing to the development of delirium. Other investigations may be considered on an individual case basis such as blood culture, arterial oxygen saturation, toxicology screening or more advanced tests such as EEG (electroencephalogram) or CT (computerised tomography) and MRI (magnetic resonance imaging) scanning.

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## 14.7 Management of a Patient with Delirium

The diagnosis and management of delirium remains challenging, because it usually presents with other complex multi-morbidity; hence, it is often being treated as a symptom rather than a syndrome and is therefore not addressed as a condition in its own therapeutic right. What is clear though is that delirium has a highly predictable occurrence and hence should be amenable to primary prevention. 'Delirium readiness' has been described, where the interaction of a range of predisposing factors with acute precipitants results in the emergence of delirium [33]. Innouye and Charpentier [34] identified a set of predisposing and precipitating factors such as male, age >65, baseline cognition, hearing and visual impairment, polypharmacy, any coexisting medical or surgical conditions, pain, constipation, frailty and sleep deprivation as predisposing on the one hand and the use of restraints, bladder catheterization, malnutrition, addition of a new drug the previous day and any major iatrogenic event as the precipitating factors on the other hand which together increase the risk of developing delirium substantially.

The combination of all these factors predicted a 17-fold increase in the relative risk of older medical inpatients developing delirium. Subsequent work has validated this model in older patients undergoing hip surgery [35].

The NICE guideline [2] describes a range of recommendations to prevent delirium, suggesting that a patient with delirium needs to be cared by a multidisciplinary team and that team members should be trained and competent in delirium prevention and management.

Interventions to prevent symptoms such as dehydration and constipation, to manage pain, or current illness (e.g. infections) and to review polypharmacy are

important strategies in prevention. NICE also highlights the importance of sensory impairment and poor sleep pattern as factors which could also increase the risk of developing acute delirium [2].

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## 14.8 Delirium in Care Homes

Delirium is common in elderly, frail residents in care home settings, who may already be suffering from dementia, along with other precipitating factors, such as infections, medication interactions, polypharmacy and environmental changes [36].

There is a great number of preceding symptoms that could be observed by the care home staff over days and weeks leading up to the development of more obvious clinical symptoms of delirium such as those comprising the “clouding of consciousness” entity [37]. Apart from being obviously confused, residents can become quiet and sleepy, or agitated and disorientated. Delirium increases the risk of admission in hospitals, falls, development or worsening of dementia and eventually death [38]. Care home staff are in a unique position of identifying subtle changes that often precede a full-blown episode of delirium; however, due to factors such as high staff turnover, or poor training and inexperience, lead to, poor identification and recognition of important prodrome signs and symptoms of delirium [39].

Delirium contributes to increased healthcare costs when admission to hospital occurs: preventing these admissions is thus a focus for policy-makers and commissioners.

Hospital admission could be prevented by adopting simple strategies by care home staff, such as better lighting to improve orientation, avoiding unnecessary use of catheters and medications that potentially could increase delirium risk. It is worth highlighting the recent Cochrane review which assessed the role of two major interventions which included adequate hydration and review by a pharmacist to adjust or stop medications that could potentially increase the risk of delirium [36].

The results of a recent project (at the time of writing this chapter) called “Stop Delirium” [39], were promising. This is a feasibility study to develop and evaluate a complex intervention, aimed at delirium prevention and management in care homes. The aim was to develop an enhanced educational package to improve delirium care for older people. The package had interactive teaching for staff, encouraging them to take ownership of the project with individuals to ‘champion’ the change and a ‘delirium practitioner’ working with staff.

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## 14.9 “STOP DELIRIUM” Project

The study included a survey to explore staff’s perception and experience of integrating delirium prevention and management activities into their daily care routine.

The main outcome of the project showed that the care home staff were more aware of the common triggers of delirium like infection, constipation, medication



effects, dehydration, falls and moving to a noisy or new environment. Interestingly this project resulted in broadening care workers' repertoire in managing confusion and increasing their confidence in identifying early signs.

The *culture* of a care home also influences the quality of relationships between staff and residents [40]; thus, staff may perceive aggressive and unpredictable behaviours as indicating that the resident is deliberately not cooperating [41]. Interestingly this project resulted in broadening care workers' repertoire in managing confusion and increased their confidence in identifying early signs.

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## 14.10 Management of Patients with Delirium in Primary Care

Most patients with delirium can be managed in primary care if the symptoms and signs are identified early enough. As most common causes of delirium are related to common infections, such as those of urinary and respiratory tract, localised or generalised pain due to degenerative causes like osteoarthritis or drug interactions. The primary care clinician needs to identify the cause of delirium, if possible at the 'prodromal', or early stage, with the help of carers if a patient is at home, or staff in residential homes.

In more severe cases, where the patients' behaviour poses a risk to either the patients themselves or their carers, they may then need to be removed from their usual surroundings to a safe place, which usually means hospital admission is required. Alternatively, if the primary care clinician has access to an *Intermediate Care* scheme, where a step-up in nursing care can be provided, in the patient's home, this may be a more appropriate option. It is important to bear in mind that confused, frail elderly patients are likely to get more confused in unfamiliar and new settings, hence admission to hospital should only be considered as the last resort, where more complex problems have developed and expert management is required or when patient safety is compromised.

Prevention of delirium by non-pharmacological intervention has a key role in the overall management of this syndrome. There is strong evidence to suggest incidence of delirium can be reduced, and its severity and duration can be controlled by implementing simple management interventions [42]. These include assisting orientation, enhancing efficacy, promoting sleep-wake cycle, pain relief and optimising physiological parameters (hydration, electrolyte balance) [42]. Delirium is a complex syndrome, hence rigid protocols and guidelines have limited impact, and an individualised approach is vital [43, 44].

Interventions targeting at reducing the incidence of delirium should also be focused on minimising polypharmacy, and preventing dopamine-acetylcholine imbalance. Regular reviews of patients' medications, and prescribing only the essential ones in the lowest minimum doses, should be the initial clinical intervention before any other pharmacological agent is to be considered to treat troublesome symptoms of delirium. Sudden withdrawal of certain medications, together with administration of deliriogenic drugs and benzodiazepines or anticholinergic agents,

have been implicated in across population [45]. The anticholinergic side effects of many commonly prescribed medications are not acknowledged by a great proportion of clinicians [46]. However, it is well known that under-treatment of common pathological issues like pain is linked to an increased incidence of delirium [47].

Acetylcholine-dopamine imbalance or neurochemical theory exploring pharmacological prevention has focused upon agents that either diminish dopaminergic or enhance cholinergic functions [48–50]. The role of these medications in co-morbid dementia is unclear though, and prescription of these agents has been aiming to treat distressing symptoms or to provide sedation in the event of an uncontrolled and difficult to manage crisis.

Management of a patient with delirium also includes ensuring their personal safety, orienting them with clocks and ensuring the room is light in the daytime and dark at night. Pharmacological treatment may become necessary to treat behavioural and psychotic symptoms of delirium; haloperidol has been shown to be effective for the treatment of behavioural symptoms of delirium. The Cochrane database systemic review has shown low-dose haloperidol, less than 3 mg, being effective in reducing the degree and duration of behavioural symptoms of delirium in elderly post-operative patients [51]. Haloperidol is as effective as atypical antipsychotic medications, but causes more side effects in higher doses. NICE [2] also refers to the use of haloperidol or olanzapine; however, haloperidol can potentially cause life-threatening complications in patients suffering from Parkinson's disease or Lewy body dementia. Hence, it is best to be avoided, especially in the initial stages, as the symptoms of this condition may not be obvious during this time.

A study [48] reported the efficacy of various agents in reducing the behavioral symptoms of delirium. Risperidone and olanzapine at doses of 0.5–4 mg and 2.5–11 mg showed effectiveness of 80–85 % and 70–75 % respectively; however, based on the author's (RN) experience as an old-age specialist psychiatrist, lower doses than the ones mentioned above may be sufficient. Thus, most patients will respond up to 2 mg of risperidone or 7.5 mg of olanzapine, without experiencing any major adverse effects. It is important to note that most atypical antipsychotic medications lose their pharmacological benefits at higher doses. It is worth mentioning that there are currently no high-quality double-blind trials available for this population of patients with these behaviour symptoms of delirium. The CSM [31, 32] issued a warning; highlighting an increased risk of cerebrovascular events in the patients suffering with delirium, with background dementia, who were treated with risperidone or olanzapine. Interestingly it was also found that the majority of antipsychotics have a potential to increase that risk. Benzodiazepines are usually considered when delirium is associated with withdrawal from alcohol, and where sedation is required, such as in cases of Lewy body dementia (DLB). Short-acting lorazepam is usually the preferred choice as it has a rapid onset, shorter duration of action and sedative properties. In suspected cases of DLB, rivastigmine has been found to be more effective than placebo [50]. It is important that these medications are reviewed regularly by the prescriber and should be discontinued after one week of continuous treatment if delirium has resolved.

## 14.11 Case

Mrs. A is an 86-year-old widow who has been a resident of a care home for the past 6 months. She had a history of diabetes, myocardial infarction, osteoarthritis and treated hypertension. There was no prior history of involvement with psychiatric services. She was placed in the residential home as she was struggling to look after herself after the death of her husband one year ago. Her GP had treated her for depression with antidepressants for a few months, but then she had suffered a number of falls and felt to be unsafe living alone.

The care home manager was informed by the staff that Mrs. A was increasingly confused with paranoid ideas – telling her family that the staff were poisoning her food and had been stealing her clothes. The manager called the GP who visited and talked to both Mrs. A, and the staff on duty. Mrs. A told the GP that she could see a man in her room at nights, and that frightened her. The GP examined Mrs. A and asked for an MSU (midstream specimen of urine) to be sent for microscopy and cultures, after the staff reported that Mrs A's urine had an offensive smell.

The GP suggested that Mrs. A might have had a urine infection and prescribed empirically a course of trimethoprim, and also suggested that the antihypertensive agent (ramipril) should be reduced as her blood pressure was as low as 100/60. Blood sample for basic laboratory investigations was obtained (FBC, U&Es, BS and HbA1C), and arranged to see Mrs. A in a couple of days, but Mrs. A had been unwell overnight and the staff contacted the general practice and reported that the patient had been shouting all night and was trying to take the bedclothes off, as there were 'ants on the bed'. She seemed frightened by something, and the staff reported that they were not able to manage her.

The GP visited the care home again and found Mrs. A in a very agitated state, crying and talking about 'the man in the corner'. The doctor telephoned Mrs. A's daughter who reported that her mother had been forgetful prior to her admission to the care home, and she was worried that Mrs A. had not been eating enough as she had seemed to have forgotten how to cook. The GP suggested that they should try to manage Mrs. A in the care home and gave advice about how to support and monitor her, and prescribed risperidone (0.5 mg to use at night). A few days later the MSU result confirmed a urinary tract infection, sensitive to trimethoprim. The following week, the GP contacted the care home to review Mrs. A's progress, and the manager reported that no risperidone had been given for the previous three nights. However, although Mrs. A was found to be less confused and agitated, the manager said she was very forgetful and asked if she could be referred for an old age psychiatry assessment. A domiciliary visit was arranged and the psychiatrist elicited collateral information from her daughter, which suggested memory problems for previous 2 years. Mrs. A scored 66/100 on a cognitive test (ACE 3). The psychiatrist suggested then that a CT scan was needed to identify cerebrovascular disease and to exclude a subdural haematoma or any space-occupying lesion, and the relevant referral was made.

The psychiatrist gave advice to the staff about how to manage future episodes of delirium and confusion, and asked the GP to re-prescribe risperidone for use on a

“PRN” basis until the results of the CT scan became available. The psychiatrist indicated that the community psychiatric nurse from the local old-age community mental health team should visit and support Mrs. A and the care home staff.

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## 14.12 Suggested Activities

### 14.12.1 Reflections

Consider the case of Mrs. A and what your role would have been in her management. Would you do anything differently?

What is the role and the risks of prescribing antipsychotic medications in older people?

What services are available in your area to support older people to remain in their own home/residential home?

### 14.12.2 Audit: Prevention of Delirium

#### Aim and Objectives

To set up strategies to prevent new cases of delirium

Primary outcome would be to investigate whether these strategies could improve the incidence of delirium and aiming at cultivating awareness and to increase the confidence of the staff involved in recognizing the early signs of delirium.

#### Background

Delirium in elderly in care homes is common but preventable. This proposed audit is to explore a review strategy setting up in care homes with the help of a local pharmacist, also regular dipstick, pain and bowel movement review and eliciting any change in the behaviour of the residents. There is extensive bibliographic evidence available to support these strategies are effective in reducing the incidence of delirium.

#### Method

This would be a prospective audit with data collection spanning over an 8-week period. The standards are medication review, urine dipstick, pain, bowel movement monitoring and exploration of change in the resident’s behaviour. The standards should be set at 100 % as all residents would have these monitored.

#### Data Collection

- Proforma:
  - Initials
  - Age
  - Sex
  - Known diagnosis
  - Current meds
  - Physical status

- Week 1–8
  - Medications review
  - Urine dipstick
  - Pain chart
  - Bowel movement
  - Observation of behaviour

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### Conclusions

Delirium is a serious public health problem with a high incidence and prevalence across all care settings. Age and cognitive impairment are the major predisposing factors of delirium, and infections, vascular, metabolic, drugs and anoxia are common precipitants. Delirium carries a serious risk of mortality, much greater than dementia. Despite this, delirium is frequently under-recognised and under-treated.

Delirium is common in care home settings and potentially preventable with the right strategies; this may not happen routinely due to lack of knowledge and inadequate training of the health care professionals. An organisational approach is essential to prevent this condition developing, with education of everyone delivering care as an essential component.

### Key Points

Delirium is common and highly prevalent in hospitals and care homes, but is also seen in primary care.

Due to its complex aetiology and presentation, is often under-recognised and under-treated.

Early identification and prevention is crucial in improving patients' outcome.

The mainstay of treatment of delirium is to identify and manage effectively the underlying cause.

The management of a patient with delirium should adopt a holistic multi-disciplinary approach.

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