Management of the Agitated Elderly Patient in the Nursing Home: The Role of the Atypical Antipsychotics

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Agitation is a frequent and troublesome problem in the long-term care setting. The term *agitation* is a nonspecific descriptor of a variety of verbal, vocal, and motor behaviors that can be unsafe, disruptive, and distressing to staff, families, and patients alike. Agitation can occur as a result of psychiatric and nonpsychiatric conditions, and appropriate treatment needs to be directed at the target symptoms. Optimal results are achieved with a combination of behavioral and pharmacologic interventions. In this review, we examine some of the causes and interventions that can assist physicians caring for the agitated elderly in long-term care settings. The role of the atypical antipsychotics is discussed in detail.
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There are more old people in nursing homes than ever before. A major reason for admission of older patients to long-term care facilities are the noncognitive behavioral deficits that accompany many dementing disorders.[1] Nursing homes, therefore, accumulate large numbers of behaviorally disturbed older individuals. While there is little that can be done to ameliorate the cognitive deficits, a combination of behavioral and pharmacologic interventions can successfully treat the behavioral disturbances. These disruptive behaviors can range from restlessness to assaultiveness and the term *agitation* is used to describe them. However, *agitation* is a nonspecific term and as such is no more diagnostic than terms such as *fever*, *cough*, or *pain*. Agitation can occur because of a variety of psychiatric and nonpsychiatric conditions, and the approach to managing these behaviors should be aimed at the target symptom.

The term *agitation* refers to any verbal, vocal, or motor behavior that poses a risk to the safety of the patient or the caregiver,[2,3] impedes the process of caregiving, or impairs an individual's function. This behavior is not the result of need or cognitive confusion. It may be the emergence of a new and troublesome behavior, such as aggressiveness and assaultiveness, or it may be an exaggeration of normal behaviors, such as repetitive questions and pacing. It may be a manifestation of a number of psychiatric disorders such as delirium, depression, anxiety, or dementia or the manifestation of a number of nonpsychiatric conditions such as pain, anoxia, infection, and metabolic imbalance. Most importantly, since there is a lack of understanding of the etiology of these behaviors, and very often there is a need to manage them rapidly, psychopharmacology often takes precedence over behavioral approaches. There is evidence[4] to suggest that the costs of caregiving are greater in agitated patients, and these costs can be reduced by appropriate and judicious combination of pharmacologic and behavioral interventions. Using both approaches leads to optimal care.

PSYCHIATRIC DISORDER IN THE NURSING HOME

An aging population increases the number of persons who require assistance with daily functioning. Inadequate informal support and caregiver burnout become major reasons for institutional placement.[5–8] Nursing homes have replaced state psychiatric facilities as the site for residential care of the elderly who have psychiatric problems, but the provision of their care has fallen on the shoulders of staff members who are insufficiently trained. Understandably, personnel become easily overwhelmed and often resort to a pharmacologic approach before assessing the reason for the agitation or considering behavioral approaches to manage the disruptive behavior.

Psychiatric disorders in long-term care facilities remain underdiagnosed and inappropriately or inadequately treated.[9] Many reasons account for this situation, but im-

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portant among them are ageism and therapeutic nihilism. The behavioral concomitants of psychiatric illness are attributed to the normal processes of aging and not to pathology. For example, assuming that patients are depressed just *because* they are in a nursing home rationalizes the withdrawal and decline of the depressed resident, and appropriate treatment may be unwittingly withheld.

The prevalence of psychiatric disorders in nursing homes is estimated at 60% to 85% of all residents.[10] Estimates of the prevalence of depressive disorders range from 6% to 24%.[11] Depression disorders are among the most underrecognized psychiatric disorders; it is estimated that only 10% of all depressed residents of long-term care facilities are appropriately treated. This results in increased morbidity, mortality, and costs, both direct and indirect.[12] Dementia estimates in nursing homes range from 40% to 90% of all residents.[13–15] Sleep disorder and anxiety states account for 20% to 40% of the residents.[16] Alone or in combination, the behavioral disturbances that result from these disorders account for the majority of disruptive behaviors that are subsumed under the description of agitation.

ASSESSMENT OF THE AGITATED PATIENT

Disruptive behavior should not always be assumed to have a psychiatric etiology.[17] A broad exploration of the etiology should precede treatment. Physical examination and appropriate laboratory investigation should be undertaken to rule out medical causes of the behavioral problem. Treatment plans should be reviewed to determine if the behavioral change coincides with recent treatment or medication change. A mental status examination should be done and changes from baseline documented. A behavioral flow chart can frequently assist in determining if there are situational or environmental triggers that may lend themselves to being modified.

Behaviors Unlikely to Respond to a Pharmacologic Approach

Many behaviors, although extremely disruptive, are unlikely to respond to the use of pharmacologic interventions. In addition, the use of pharmacologic agents may sometimes actually worsen the behaviors rather than contain them. Side effects of a pharmacologic agent may result in sedation and greatly increase the risk for falling, delirium, bowel and bladder dysfunction, orthostatic hypotension, and memory dysfunction and can complicate an already complex clinical picture.

Wandering, pacing, and exit seeking. Disruptive as these behaviors may be to the milieu of a treatment facility, there is often very little that can be expected of a pharmacologic intervention. Unless restlessness is the result of a drug-induced akathisia—which may respond to the reduction or discontinuation of the drug—or a response to visual or auditory pseudoperceptions, the addition of an antipsychotic or a benzodiazepine is usually not indicated and may increase the risk of falling.

Screaming, inappropriate verbalizing, using foul language. Most screaming is a result of physical discomfort and may occur during the provision of personal care.[18] It may also occur as an atypical manifestation of depression. Pharmacologic interventions have not been effective. Unlike Tourette's disorder, which may respond to pharmacologic intervention, inappropriate verbalizing is best managed by behavioral interventions.

Resistance with toileting. Many patients become extremely agitated to the extent of being violent during the provision of personal care. This can be particularly difficult with activities such as bathing and changing soiled undergarments. A small dose of an anxiolytic or trazodone given about an hour before the provision of care has occasionally been helpful in calming these patients.

Inappropriate voiding, defecation, or spitting. These behaviors may emerge as confusion and disinhibition worsen. Unless they are the result of a medical disorder (urinary tract infection, bowel impaction, or sialorrhea) that can respond to treatment, the use of psychopharmacologic agents may have little to offer. Inappropriate voiding should be distinguished from incontinence, for which there are often specific interventions.

Inappropriate sexual behaviors, public masturbation, disrobing. These behaviors are often more embarrassing to the caregivers than a focus for intervention. Older people continue to find comfort in sex. For some staff members, this activity generates undue embarrassment in dealing with the sexuality of persons who may be their parents' age. Unless attempts at redirection are met with resistance and/or violence or the behavior becomes compulsive or predatory, it may be better to redirect the behavior than to use a pharmacologic approach. Local genital irritation and urinary tract infection should always be ruled out and treated prior to using psychopharmacologic agents. If, however, the behavior becomes a source of distress to the patient and others in the environment, selective serotonin reuptake inhibitors (SSRIs) and neuroleptics may offer limited success. SSRIs also carry an added advantage in that they can decrease the libido. Estrogen administration has been reported to benefit some patients, although the results are not uniformly predictable.[19]

Behaviors Likely to Respond to a Pharmacologic Approach

Disruptive behaviors that warrant a pharmacologic approach include:

- Coexisting axis I disorder. If the patient has a coexisting axis I disorder, it needs to be treated with the appropriate agent.

- Intermittent explosive disorder.
- Agitation unresponsive to behavioral intervention.
- Sleep cycle disruption.

MANAGEMENT OF THE AGITATED PATIENT

General Principles

Ensure safety of the patient and the staff. Even debilitated elderly patients can inflict serious injury on their caretakers. Staff and family members should be educated in the need to observe caution when a patient's agitation and paranoia become a problem. Similarly, care should be taken to ensure that patients do not inadvertently injure themselves. The use of passive restraints should always be considered.

Consider behavioral interventions before pharmacologic ones. While it may be simpler to prescribe a drug—in many instances, the most appropriate intervention—it may be more prudent to attempt a behavioral intervention first, thereby avoiding the problems that could occur secondary to drug-induced side effects.

Keep in mind that change takes time. Many agitated and disruptive behaviors develop and emerge over a period of time and cannot reasonably be expected to resolve in a matter of hours, no matter how much this outcome may be desired by caretakers. Continuous screaming or difficulties with the provision of Activities of Daily Living (ADL) care can be extremely taxing to the milieu of a unit, and while caregivers would prefer to do something that could elicit a rapid response, this approach may lead to the indiscriminate and excessive use of pharmacotherapy.

Behavioral Techniques of Managing Agitation

Be flexible. Interventions should be adapted to the patient's schedule and not vice versa. Every patient does not have to be awakened early in the morning so that the staff can complete their assignments in the allotted time.

Divide the task. If the provision of ADL care results in a patient becoming agitated, it may be useful to divide the task into smaller and more achievable segments. A person can be bathed and dressed at one time and shaved at another time.

Institute a behavior chart. A behavior chart can provide data other than anecdotal impressions about time and frequency, thereby indicating if the disruptive behavior is time, person, or situation specific.

Use environmental manipulation. Changing a roommate, instituting a room plan, isolating a disruptive patient, and other such attempts to change the environment of the agitated person may, in many cases, help to reduce or resolve the disruptive behavior.

Assign failure-free and repetitive tasks. If possible, let the person perform simple tasks, such as folding towels or clipping coupons, that allow him or her to have a sense of success. This strategy will often reduce a sense of frustration and may prevent the emergence of disruptive behaviors.

Attend to the patient's sensory input. Visual and hearing loss can cause a person to become paranoid and agitated. Simple and often neglected interventions such as the provision of adequate lighting, voice amplification, eyeglasses, and attention to the ambient temperature and noise level can be extremely useful in controlling disruptive behavior.

Accept therapeutic fiblets. It is sometimes easier and less problematic to agree with patients than to convince them of the fallacy of their assumptions. This approach may not alter the behavior and the patient may continue to ask the same question incessantly, but it can buy time when staff resources are already stretched.

Use occupational, recreational, and music therapy. Drawing, painting, singing, and game playing are not only distracting and relaxing, but they can also help to reduce deconditioning resulting from immobility.

PHARMACOLOGIC APPROACHES TO MANAGING AGITATION

In many situations, the judicious use of psychopharmacologic agents in combination with behavioral intervention can be extremely helpful in controlling agitation. Clinicians should keep in mind that many patients with cognitive deficits are unable to accurately identify and report the occurrence of side effects. This information can often be elicited by careful monitoring of the patient for the occurrence of side effects and also by questioning family members.

General Principles

Start low, go slow, and increase only if necessary. This is a rule that tends to be overlooked or forgotten. In older patients, the pharmacokinetics and pharmacodynamics of psychotropic drugs are significantly altered. Therefore, older patients are more likely to experience adverse events with drug doses that would be tolerated by younger patients. Rapid escalation of drug dosage can result in the emergence of side effects that could be troublesome and potentially lethal. Small doses given more frequently are preferable to large doses given at longer intervals.

Choose the drug on the basis of its side effect profile. All psychotropics are effective in controlling the target symptom that they were designed to treat. What distinguishes one drug from another is its side effect profile and consequently its overall impact on function. Certain side effects are far more problematic in older patients than in younger patients. These include but are not limited to sedation, orthostatic hypotension, anticholinergic side effects, memory dysfunction, and extrapyramidal side effects (EPS). An increased risk of falling, worsening of cognitive decline, bowel and bladder paralysis, cardiac conduction

defects, orthostatic hypotension, and delirium are a few of the more common problems that can be avoided if attention is paid to the side effect profile of the drug being considered. There is a linear correlation between the occurrence of falls and the use of sedating drugs.[20,21]

Avoid polypharmacy. Polypharmacy is a major problem in geriatric care. A great deal of harm can be done to these patients by ill-advised pharmacology.[22] Older patients are usually on a multiple drug regimen, and the potential for drug interactions increases with the addition of each new drug. A patient's drug regimen must be reconsidered and unnecessary drugs eliminated every 2 months in conjunction with the primary care physician or consulting pharmacist. In addition, careful attention should be paid to the use of over-the-counter preparations.

Specific Drugs

Anxiolytics. Benzodiazepines, azaspirones, and alprazolam are commonly used in the management of patients who exhibit agitated and disruptive behaviors. Their impact on these behaviors may be a result of their sedative properties more than of their specific anxiolytic effect. Buspirone, which is the least likely of this group of agents to cause sedation, has been reported to be effective in controlling agitation.[23] Alprazolam is an effective drug but tends to result in the development of tolerance, which in turn makes dose reductions extremely difficult and slow. Benzodiazepines with short half-lives, such as oxazepam and lorazepam, are effective in controlling a variety of agitated behaviors but can result in the emergence of a cycle of sedation and disinhibition. Sudden cessation of short half-life anxiolytics can result in the occurrence of seizures. All benzodiazepines can result in cognitive decline and increased confusion.[24] The situation in which a patient is most likely to benefit from the use of a short half-life benzodiazepine is severe or psychotic agitation and assaultiveness, in which rapid control is imperative to prevent injury to self or others.

Antipsychotics. Conventional antipsychotics have been the mainstay of the management of psychotic and disruptive behaviors. The effectiveness of these drugs in controlling agitation is often likened to that of a chemical restraint. At therapeutic doses, however, troublesome side effects can and do emerge. The older patient is extremely vulnerable to the development of EPS, sedation, anticholinergic side effects, and tardive dyskinesia. These side effects, along with the limited effectiveness of the conventional neuroleptics in controlling negative symptoms, tend to make their use in older patients less effective. Haloperidol is probably the most effective and best tolerated drug in this category although it does have a substantially higher incidence of EPS. Despite its potential to be more sedating, perphenazine is well tolerated. Drugs such as chlorpromazine and thioridazine are best avoided in older patients. No study has demonstrated a consistent advantage in the efficacy of one conventional neuroleptic over another. The choice of a drug is therefore best made on its side effect profile. Should a patient need to be started on conventional neuroleptic treatment, it is always possible to switch to an atypical antipsychotic once the patient is stable.

The atypical antipsychotics, by virtue of a cleaner side effect profile, have made the use of antipsychotics safer for the older patient. Although the use of clozapine in older patients is limited by its significantly greater potential for sedation, risperidone and olanzapine are well tolerated by older patients. Sedation may occur when treatment with olanzapine is initiated; however, it tends to diminish with continued use. Despite its affinity for the muscarinic (M_1–M_5) receptors—which suggests that olanzapine has significant anticholinergic properties—for reasons that are unclear, these have not been widely reported in clinical practice. Risperidone is more sedating than olanzapine but less sedating than clozapine. Caution is advised when risperidone is used in the presence of cardiovascular disease.[25] Of the three atypical antipsychotics currently available, risperidone has the highest incidence of EPS. Both olanzapine and risperidone are superior to conventional neuroleptics in the management of behavioral disturbance resulting from psychosis. On the basis of a comparison of the side effect profiles of the atypical antipsychotics, olanzapine is a better first choice for this type of disturbance. When used in the elderly, both olanzapine and risperidone should be started at lower than usual doses with gradual dose increases. Suggested starting doses for risperidone are 0.25 mg b.i.d. with gradual increases to a maximum of 1.5 to 2.0 mg/day in divided doses. Olanzapine should be initiated at a dose of 2.5 mg h.s. and increased by increments of 2.5 mg to a maximum of 15–20 mg/day.

Anticonvulsants. The anticonvulsants carbamazepine, valproic acid, and gabapentin have been used to control agitation in the older patient. The use of carbamazepine has long been suggested as an effective treatment for patients with aggressiveness secondary to brain damage.[26] Valproic acid, which has considerable usefulness as a second-line antimanic drug, has also been used with some success in controlling agitation.[27] In part, its effectiveness may lie in treating late-life mania, which has an atypical presentation in the older patient. Another advantage of valproic acid is its minimal effect on cognitive function.[28] Valproic acid up to 1500 mg/day in two or three divided doses has been found to be effective. Gabapentin has been used as an adjunct to anticonvulsant treatment and occasionally has been used alone to control agitation. Results have been too varied to recommend it as a useful agent.

Hormones. Estrogens have been used to control agitation. There have been case reports that attest to the success of estrogens, but controlled studies have yet to demonstrate their effectiveness.[19]

Antidepressants. Agitated depression is a common yet frequently misdiagnosed clinical condition. It is estimated that as few as 10% of patients who have clinical depression in the long-term care setting are appropriately diagnosed and treated.[12] Many reasons have been put forward to explain this discrepancy, but perhaps the most frequent explanation is that the symptoms of depression are attributed to the normal process of aging and thus do not warrant intervention. The agitation that frequently accompanies depression is then treated with benzodiazepines and antipsychotics, but not with antidepressants.

Although selective serotonin reuptake inhibitors (SSRIs) and tricyclic antidepressants are reported to have about the same efficacy with regard to their antidepressant properties, the SSRIs are preferable for use in older patients because of their safer side effect profile. Considerable disagreement exists about which SSRI is the best choice for use in the older patient. In part, this centers around (1) issues surrounding the impact of the various drugs in this category on the cytochrome P450 system and (2) disagreement about the risks and benefits of a drug with a long versus a short half-life. Within this category, fluoxetine and sertraline are the drugs of choice. Although it is an effective drug, paroxetine is more sedating than fluoxetine and sertraline. Because of its short half-life and higher anticholinergic properties, paroxetine is reported to be more likely to result in a drug discontinuation syndrome if the dose is reduced suddenly or if doses are missed or discontinued.[29] The issue of long versus short half-life has not been adequately studied in this population, and the emerging data on drug discontinuation syndromes argues for the use of a drug with a long half-life. Fluoxetine may be especially useful in the case of community-dwelling elderly patients in whom forgetfulness and confusion can pose serious problems with compliance. An additional benefit of a drug with a long half-life is that dosage frequency can be reduced and the drug can be administered on a q.o.d. schedule.

Trazodone is not a useful drug in treating depression in older persons because, at therapeutic levels, it can cause significant orthostatic hypotension. However, in low doses (25–50 mg b.i.d. or t.i.d.) it reduces agitation sufficiently to warrant its inclusion in a list of antiaggression drugs.[30] It also has considerable effectiveness as a hypnotic because it is virtually devoid of anticholinergic effects.

β-Blockers. While some success is reported particularly with propranolol in the treatment of agitation in patients with developmental disorders, evidence for the efficacy of β-blockers in elderly patients is lacking. There are reports[31,32] of benefits, but controlled studies are lacking. The major limitations in using these drugs in agitated elderly patients are the side effects and the contraindications in patients with congestive heart failure, diabetes, and chronic obstructive pulmonary disease.

Miscellaneous. Electroconvulsive treatment (ECT) should always be considered when drug treatment has been unsuccessful or has been limited by the emergence of intolerable side effects. Not only is ECT accepted as an effective treatment for treatment-resistant depression in the older patient, but it can also be beneficial for treating late life mania and psychosis.

CONCLUSION: AN INTERDISCIPLINARY APPROACH TO MANAGING AGITATION

Behavioral disturbance or agitation causes excessive disability for an older patient who is already functionally limited. These behaviors can be conceptualized as being disturbed or disturbing and will stress the caretaker whether in the community, the hospital, or the long-term care setting. The cause of these behaviors is poorly understood, and a number of social, medical, and psychiatric conditions can explain their emergence. These disturbances can range in severity from the irritating to the dangerous, but they inevitably compromise effective caregiving.

Effective management of these behaviors requires an interdisciplinary approach. The pharmacologic solution, although tempting, can result in as many problems as it solves, and it must be combined with a carefully designed behavioral approach. This strategy requires the coordinated input and efforts of the interdisciplinary team involved in caring for the patient. To be effective, each discipline must enhance the efforts of the others in attempting to arrive at a successful outcome.

No one drug can control all forms of agitation any more than one antibiotic can treat all infections. One size rarely fits all! All drugs are effective in treating the target symptoms that they were designed to treat, and what separates one drug from another is largely the side effect profile. Older patients have sufficiently altered pharmacokinetics and pharmacodynamics that make them vulnerable to the development of side effects, which further compromise their function. Pharmacologic advances and a clearer understanding of neuroreceptors have resulted in the evolution of drugs that have increasingly cleaner side effect profiles. The serotonin/dopamine antagonists currently available—and those in development—offer the promise of effective treatment without compromising function and should represent a first choice when treating the agitated or psychotic older patient.

Drug names: alprazolam (Xanax), buspirone (BuSpar), carbamazepine (Tegretol and others), chlorpromazine (Thorazine and others), clozapine (Clozaril), fluoxetine (Prozac), gabapentin (Neurontin), haloperidol (Haldol and others), lorazepam (Ativan and others), olanzapine (Zyprexa), oxazepam (Serax and others), paroxetine (Paxil), perphenazine (Trilafon), propranolol (Inderal and others), risperidone (Risperdal), sertraline (Zoloft), thioridazine (Mellaril and others), trazodone (Desyrel and others), valproic acid (Depakene and others).

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