Cocaine Abuse in Later Life: A Case Series and Review of the Literature

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ABSTRACT

Objective: To raise awareness about the growing trend of cocaine abuse in later years as an underdiagnosed, undertreated, and comorbid condition in older individuals. Three cases of cocaine use in patients over the age of 50 years in the Malcolm Randall Veterans Medical Center, Gainesville, Florida, within a 10-day span in 2013 are presented.

Data Sources: PubMed was searched using combinations of keywords, including *cocaine*, *addiction*, *elderly*, and *aging*, to find articles published between 1986 and 2013.

Study Selection: In total, 37 articles were selected for inclusion on the basis of their relevance to the objective and importance to the representation of cocaine abuse, including international guidelines for addiction.

Data Extraction: Each article was reviewed for eligibility. Final decisions were made following full-text review.

Results: Cocaine addiction remains a high-morbidity chronic-relapsing illness with few treatment options. A review of the literature shows that late-life cocaine use is sparsely recognized. Of particular interest are the clinical presentations in which a higher index for detection is warranted. The high rate of medical comorbidity associated with cocaine use, especially cerebrovascular deficits, presents special treatment and social challenges.

Conclusions: As the number of older individuals admitted for substance use continues to climb, clinicians must adapt to the changing demographics by increasing screening, early detection, and treatment options for older persons.

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Substance abuse in persons over the age of 50 years is increasing.[1,2] A growing number of older individuals are being admitted for first-time treatment, many for polysubstance abuse.[3] Among the most abused substances reported are cocaine and heroin.[3,4] This increase in substance use represents a novel trend not previously appreciated in older cohorts.[1] With the ever increasing number of persons in these older cohorts, this problem is expected to escalate.[3,5,6]

METHOD

PubMed was searched using combinations of keywords, including *cocaine*, *addiction*, *elderly*, and *aging*, to find articles published between 1986 and 2013. In total, 37 articles were selected for inclusion on the basis of their relevance to the objective and importance to the representation of cocaine abuse, including international guidelines for addiction. Each article was reviewed for eligibility. Final decisions were made following full-text review. This article also presents 3 cases of cocaine use in older individuals who presented to the Malcolm Randall Veterans Medical Center, Gainesville, Florida, over a 10-day span in 2013.

CASE SERIES

Case 1

Mr A, a 60-year-old man with history of posttraumatic stress disorder and chronic back, neck, and knee pain, presented to urgent care requesting admission for detoxification from cocaine and alcohol. He had been admitted for 1 week of acute detoxification 1 month earlier for a similar presentation; however, he relapsed 1 week postdischarge. He attributed his relapse as an attempt to dull his chronic pain. He presented to urgent care after he had spent $3,000 on cocaine in 3 weeks. Mr A reported that he started drinking alcohol at age 11, escalating to daily use at age 18 during his tenure in the army; he also started cocaine during this same period. He reported discontinuing cocaine use in his early 20s, but stated that he restarted at the age of 57 in an attempt to manage knee pain. He reported continuous lifelong issues with alcohol, including 2 previous hospitalizations, 4 charges of driving under the influence, and "countless arrests" for bar fights, domestic abuse, and self-reported stalking. At this presentation, Mr A reported that his last use of both alcohol and cocaine was 1 day prior. His urine drug screen was positive for cocaine, and his blood alcohol level was < 10 mg/dL. Mr A was admitted for acute detoxification and arrangement of long-term care.

Case 2

Mr B, a 56-year-old man with a history of schizoaffective disorder, alcohol dependence, previous acute myocardial infarction, and chronic deep venous thrombosis, presented to the emergency department for bright red blood per rectum. He reported that he had smoked large, undefined amounts of crack cocaine in a suicide attempt due to his inability to tolerate "the voices" anymore. Mr B reported that he started drinking alcohol in his early 20s, requiring 1 hospitalization, but that his drinking never resulted in legal or employment issues. His alcohol use continued for decades to the present, with his last drink 2 weeks

Clinical Points

- The number of geriatric and older individuals with a substance abuse disorder, especially abuse of cocaine and heroin, is on the rise; despite this known trend, substance abuse remains underestimated, underidentified, underdiagnosed, and undertreated in this population.
- Cocaine use is associated with multiple medical consequences in older individuals, including higher rates of hypertension, pulmonary issues, myocardial infarctions or spasms, cerebrovascular accidents, and cognitive impairment.
- As trends in use change, clinicians need to better recognize cocaine use in older individuals and adjust screening protocols accordingly.
- Substance treatment programs should prepare for a growing number of older individuals requiring treatment and all the potential needs, medical and other, that these individuals will require.

prior to admission, consisting of eighteen 12-ounce beers in 1 sitting. He reported that he started using cocaine at 50 years of age at the suggestion of a girlfriend due to feelings of depression, anxiety, and distress over the voices. Mr B used cocaine daily for 5 years followed by a period of sobriety of 11 months before his most recent cocaine binge. He also endorsed occasional marijuana use throughout his life (last use > 1 month prior to admission). His urine drug screen was positive only for cocaine, and his blood alcohol level was < 10 mg/dL. After medical stabilization, Mr B was transferred to the inpatient psychiatry unit for transition to substance abuse care.

Case 3

Mr C, a 61-year-old man with a history of diabetes, hypertension, anxiety, and atrial fibrillation, presented to the emergency department seeking voluntary admission for alcohol detoxification. He reported first drinking alcohol socially at age 16, with escalation to daily intake by age 26. At the time of presentation, Mr C was drinking 2 pints of liquor daily, with his last drink on the morning of admission. He denied any previous hospitalizations, legal issues, or employment issues. He endorsed daily marijuana use in his 20s, with continued occasional use throughout his life (last use 2 months previous). He also reported occasional use of cocaine: first use in his 30s associated with social pressure of the period (mid 1980s), with continued occasional use limited only by finances throughout his life. His most recent reported use was 1 week prior to admission. However, in the emergency department, his urine drug screen was positive for cocaine with a blood alcohol level of 173 mg/dL. He denied any correlation between atrial fibrillation and cocaine use. Admission laboratory values revealed electrolyte imbalances, but following medical stabilization, Mr A was transferred to the inpatient psychiatry unit for transition to substance abuse care.

DISCUSSION

Substance abuse among persons older than age 60 years is one of the fastest growing health problems in the United States[1] and Europe.[2] Studies have demonstrated that the proportion of older adults receiving first-time admissions for substance abuse treatment is increasing relative to younger adults.[3] Further, the pattern of use is changing, with a marked increase in illicit drug involvement, particularly cocaine and heroin,[3,4] as well as an increase in the number of older adults admitted for polysubstance abuse.[3] Admissions for heroin, cocaine, opioids, marijuana, and methamphetamine abuse treatment have increased in older populations, with 1 study reporting illicit drug abuse in up to 61% of all admissions in the elderly.[3] Studies have estimated that the number of persons in the United States aged ≥ 50 years with a substance use disorder is likely to exceed 5.7 million by 2020.[5,6]

Despite the growing number of older adults suffering from addiction, substance abuse disorders remain underestimated, underidentified, underdiagnosed, and undertreated in this population.[1,7,8] Identification of substance use in the elderly is made more difficult due to confounders such as lack of social cues like job loss or legal issues, overshadowing of problems by other medical conditions, the mistaken view that physical and cognitive decline are related to normal aging, a relative lack of research in this area, insufficient data on the topic, hurried office visits, ageism, low index of suspicion, and a relative denial in both the elderly and their caretakers.[1,8] Previous views of aging as protective against drug use may be incorrect, as it is most likely a chronic and relapsing disorder[9–11] related to a variety of factors.[3,12,13] Another assumption coming into question in recent years is the belief that illicit drug use in the elderly began before the age of 30 years in most persons and is rarely initiated after this age,[5,6] as this belief may be leading to less physician screening of older individuals and resulting in missed diagnoses.

Older persons admitted for illicit drug abuse have unique demographics. Within older individuals admitted for drug-related treatment, the primary demographics included male sex, white or black race, and high school educated,[3,5,14] as well as unmarried persons, those with major depression,[15] and rare attendance of religious services.[5] These trends tend to be increasing over time such that the evolving face of the older person admitted for drug-related treatment appears to be toward white persons with a high school education or beyond.[3] Among older individuals who have used illicit drugs in the last year, 15% reported using 2 or more drugs in the last year, and 49% of marijuana and 57% of cocaine users reported daily use (≥ 30 days in a month).[14] One study indicated that most (>70%) of older illicit drug users first used their substance of abuse prior to age 30 years.[5] However, other studies have suggested there are a significant number of persons who initiate drug use later in life.[8,15] This finding demonstrates the necessity of further research to determine the true trends in first use.

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Cocaine use in elder populations in particular is not well established in the literature except for occasional case reports.[7,16,17] One study published in 2004 demonstrated that within an inner city emergency department, 2% of all persons aged ≥ 60 years were found to be cocaine positive on urine analysis.[7] This rate was far higher than the National Household Survey on Drug Abuse estimates of 0.7%,[18] leading some to speculate that the location may have skewed the data. However, a survey of patients aged ≥ 65 years at an academic suburban hospital from 2004 to 2009 demonstrated a similarly elevated rate of 2.3% positive for cocaine.[8] Another study demonstrated that in persons ≥ 50 years of age with any lifetime history of intravenous cocaine use, 13% were still actively using cocaine daily.[19,20] Perhaps more surprisingly, a study of veterans aged ≥ 50 found that 14.5% of patients being treated for crack cocaine had their first use after age 50 years.[8,15] This finding begs the obvious questions of why people would acquire such a habit later in life, is this trend true of other illicit drugs as well, and are our assumptions of previous use as a teenager as a primary predictor truly correct. Some specific risk factors identified for cocaine initiation in the elderly include male sex, comorbid drug or alcohol abuse,[7] retirement, chronic pain, and affective symptoms related to loneliness.[21] Additional hypothesized reasons for the acquisition of drug use include stressful late-life events, loss of productive social roles, loneliness, drinking habits acquired in early life, and absence of supportive social relationships.[8] However, the answer is most likely multifactorial and should be investigated more with follow-up studies.

Elderly persons today may be at a higher risk for illicit drug use than previous generations due to a number of reasons. The increases in rates of illicit substances in older individuals noted are not likely related to improved detection, as older persons are not routinely screened for substance abuse.[8,15,22] Why then are older persons today using illicit substances in higher numbers than at any other time in history? Some of the hypothesized reasons include the higher number in this population cohort,[6,19,22] the egocentricity of the baby boomer generation, and the higher rates of drug use when younger,[23] as well as a general acceptance of "sex, drugs, and rock and roll." If these assumptions are correct, illicit drug abuse admissions in older persons should continue to increase through at least the year 2020, when all of the baby boomers and post–baby boom cohort reach age ≥ 55 years,[3,6,22] and will very likely increase beyond this point given the higher rates of illicit drug use in middle-aged populations.[7,14]

Illicit drug use in the elderly can lead to negative medical consequences. Persons with a drug dependence diagnosis were found to die on average 22.5 years earlier than those without the diagnosis.[24] Further, older persons with a drug dependence were found to have higher rates of medical morbidities such as hypertension, liver disease, bodily pain, and physical functioning than younger drug-dependent patients[5,25–27] or when compared to older-aged population norms.[27] They were also found to have a relative acceleration of these associated comorbidities,[5,27] as well as elevated risk of neurotoxicity and drug-related adverse consequences.[5] Cocaine use, in particular, has been associated with cardiac, pulmonary, cerebrovascular, psychiatric, and gastrointestinal complications.[7] However, there are relatively few studies demonstrating the specific adverse risks of cocaine use in the elderly, but given that cocaine is known to increase the frequency of cerebrovascular accidents,[28,29] the cognitive impairments of cocaine,[30] and the increased risk of cerebral and cardiovascular events in this age group,[31,32] this remains an area that warrants further exploration due to increasing trends.[7,19]

The association of illicit drug use with acceleration of medical morbidities and risks of complications in patients with substance use disorders make these older patients with drug dependence a population with unique treatment requirements[3] and suggests the need for improved tools for measuring substance use and abuse among older adults.[6,19] Further, the aging baby boomer population will place increasing demands on the substance abuse treatment systems in the next few decades, with some estimates that 17%–34% of this population will need treatment by 2020.[5] Elderly individuals often have other coexisting medical and psychiatric conditions that require appropriate levels of medical care and may complicate treatment and compromise an elderly person's ability to comply with recommended regimens. Further, as age decreases the ability of the body to metabolize toxins and medications, older patients remain at increased risk of toxicity, unexplained falls or injuries, confusion, and inadvertent overdose.[33] Cocaine specifically is associated with myocardial and cerebrovascular ischemic events and sequalae.[34] The neurocognitive deficits associated with cocaine use must be addressed to improve treatment outcomes.[35]

Despite these issues, most drug treatment facilities do not have specialized programs for older adults. When specialized care is not available, older patients may benefit from being paired with younger individuals whose lifestyles are most compatible and with whom they are comfortable, although some have suggested that commonality of drug choice may be the most important factor in grouping patients.[34] Regardless of the grouping, it is essential to address the emotional, social, medical, spiritual, and practical problems or changes that often characterize the experiences of older adults and this requires a broad holistic approach.[36] A promising new approach to cocaine treatment relevant to this population is the potential use of cholinesterase inhibitors and other cognitive enhancers used to both decrease the reward reinforcement of cocaine use and enhance the cognitive skills necessary to prevent relapse.[35,37]

CONCLUSION

By 2020, baby boomers will all be of advanced age.[3,6,22] With them they bring a lifetime of habits and cultural beliefs. Having lived through the cultural changes associated with the 1960s onward including events such as the Woodstock era, disco revolutions, and the cocaine parties of the 1980s, it is no surprise that they are bringing new views,

acceptance, and, at times, habits of drug use with them. This stands in direct contrast to previous cohorts of older individuals who rarely used any illicit substances.[8,15,22] With the changing views of the older population, so too must the views of the medical establishment change. No longer can it be thought that illicit substance use is restricted to the young or that older persons outgrow this habit.[1] Given the potential negative impact of illicit substance use on medical management of comorbidities as well as the drug itself, we as clinicians must learn to recognize the signs and better screen older populations. This report included a brief summary of 3 cases of older individuals addicted to cocaine who presented to the Veterans Administration hospital in a 10-day period and were seen by 1 provider team. Two of the patients had used cocaine in their youth, but one patient initiated use after the age of 50 years. The pattern of first use as well as the frequency of observations raises serious concerns about the ability of the existing infrastructure to handle substance abuse in late life. As the number of older individuals admitted for substance use continues to climb,[5,6] we must adapt by increasing screening, early detection, and treatment options for older persons. Will we be ready to handle this increased volume of persons with special needs?

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