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The impaired anesthesiologist: not just about drugs and alcohol anymore☆

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Abstract The safety of patients and the health of clinicians are affected by drug and alcohol abuse. Affective disorders such as depression are also common in medical professionals, including anesthesiologists. The suicide rate among anesthesiologists is high. Since depression is the most common psychological characteristic associated with suicide, it may be a marker for risk of suicide.

1. Introduction

When anesthesiologists think about physician impairment, it is usually in the context of drug or alcohol abuse. There is at least awareness of this issue [1,2] and there are established plans for treatment [3,4]. Over the years, efforts have increased in anesthesiology residency programs to warn residents about the unique problems associated with substance abuse [5]. For instance, the video series, "Wearing Masks", has been used for many years in our residency program, and undoubtedly in many other programs, to address this issue [6].

Depression can occur with or without substance abuse. However, substance abuse, whether alcohol or drugs, is found as a comorbidity with depression and other affective disorders [7]. This is true not just for the general population but also for physicians. It is not possible to generalize as to "which came first", as some individuals use alcohol or drugs to self-medicate, and others may become depressed as a result of their addiction. In fact, the relationship between depression and substance abuse is very complicated, and no single or constant pattern is seen [8]. Some have even proposed a genetic link between affective disorders and substance abuse [9].

There is no one reason cited as to why anesthesiologists are more prone to substance abuse than other specialties [1]. Access to drugs, stress, genetic predisposition, environmental exposure, and psychiatric comorbidities all have been proposed. Certainly, those with psychiatric illness accompanying substance abuse need treatment for both [10].

Other physical, behavioral, psychological, and social issues affect the ability of an anesthesiologist to work at a high level of performance during stressful circumstances. Major depression, bipolar disorder, attention deficit disorder and neurocognitive and emotional impairments that derive from physical diseases—for example, diabetes, coronary artery disease, HIV/AIDS, and hepatitis—may prevent the clinician from focusing on safety and vigilance, two hallmarks of the profession [11-14]. Thus, the definition of the impaired anesthesiologist is much broader than simply "the addicted anesthesiologist."

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Historically, the medical community has placed a minimum of importance on the mental health of its members [15,16]. Affected physicians have been hesitant to seek help owing to the stigma involved, which may include discrimination in medical licensing, hospital privileges, and professional advancement. A 2003 consensus statement from the American Foundation for Suicide Prevention, published in the Journal of the American Medical Association (JAMA) concerning depression and suicide in physicians, recommended changing professional attitudes and institutional policies to encourage physicians to seek help [17]. The statement also stressed that once barriers had been removed and attitudes toward physician depression and suicide changed, physicians would be more likely to recognize and treat affective disorders seen in their peers [18]. From the lack of published literature about depression in physicians, it appears that little has changed since the 2003 JAMA report was released.

There is a dearth of information regarding depression in anesthesiologists. The impairment of depression may affect the practicing anesthesiologist in different ways. First, suicide is more common in anesthesiologists than it is in the general population or in other physicians [19-22]. In our specialty, suicide occurs at two to three times the average rate for the general population. While not all suicides are due to depression, suicide is the endpoint of untreated depression [23-25]. Second, impairment results in breaches of vigilance [3]. The safety of our patients demands attention and treatment from focused and unimpaired clinicians. We believe that untreated depression can have a profound negative effect on patient safety.

2. Historical and epidemiologic perspectives

Providing anesthesia care for patients in the operating room (OR) has always been stressful. Production pressure, responsibility for a patient's well-being, and sometimes contentious relationships that can occur in the OR produce high levels of stress, even under the best of circumstances [26-28]. Those individuals who internalize stress and who have a genetic predisposition can develop depression [29]. Stress and depression can manifest as drug abuse, alcohol abuse, or both [30]. In fact, Horace Wells, one of the pioneers of anesthesia, who considered himself a professional failure, became addicted to chloroform. His failed attempt to demonstrate nitrous oxide anesthesia amid cries of "Humbug" at Massachusetts General Hospital in 1845 is well known to students of anesthesia history. After that debacle, he began a slow descent into depression and substance abuse. He took his own life in 1848 [31,32].

Depression is believed to have a genetic component, and susceptible individuals are found in all medical specialties and all occupations [33]. While the rate of depression among anesthesiologists is not known, the rate for male physicians taken as a group is believed to be the same as for men in the general population (12% to 13%) [17]. The lifetime rate of depression in women physicians is 39% [17]. Prevalence rates of depression in medical students and residents are higher (15% to 30%) than those of the general population [17].

Moreover, multiple studies over the years, some with data going back to the 1940s, have shown a rate of suicide in anesthesiologists not only greater than the general population but also other medical specialties [19-23].

Of course, not everyone in the general population, or every physician with depression or addiction to substances, commits suicide [34,35]. However, more than 90% of persons who commit suicide have one or both of these conditions [17,36]. Many other factors in the life of the depressed person increase the risk of a suicide attempt (eg, personal, professional, and financial problems) [37]. In the same vein, individuals may have protective factors in their lives that prevent them from killing themselves; these may include effective medical treatment of the disorder, social and family support, religious convictions, and established coping skills [21].

Symptoms such as inability to concentrate, impaired judgment, indecisiveness, and a negative attitude about work may be signs of depression observed by colleagues [37]. More serious behaviors such as workplace violence, substance abuse, and suicide can be the unfortunate final results [37]. For anesthesiologists, isolation while practicing patient care does not lend itself to the sharing and expressing of emotions to communicate our stresses [27]. Such isolation may hide errors in concentration or clinical judgment. Patient safety can suffer.

3. The stigma of depression

Physicians are notorious for not being "good patients"; they have a tendency to self-diagnose, ask colleagues for advice or prescriptions, or ignore problems instead of actually seeking help as a patient [38-40].

If one of our colleagues were experiencing substernal chest pain, it is likely that he or she would seek care. If a clinician is experiencing symptoms of depression, it is unlikely that treatment would be sought. While deaths in physicians due to cardiovascular disease have decreased, the rate of death from suicide has not [17].

Depression among physicians often remains undiagnosed because they are less likely to have a regular health care provider [16,41]. Once it is recognized, there is resistance to and fear of seeking help for depression because of the risk of problems obtaining or keeping medical licenses, hospital privileges, and insurance. Physicians who treat an impaired colleague may defer to their colleague's wishes in forming a treatment plan, a situation that could contribute to improper care [42].

Much also has been written about the "tough guy" or "macho" culture of medicine [43]. The unspoken message

of this culture could be summed up as "big boys and girls don't cry"—a belief that physicians cannot and should not show weakness or vulnerability. In *The Tennis Partner*, novelist Abraham Verghese describes this culture as "a silent but terrible collusion to cover up pain, to cover up depression: there is a fear of blushing and machismo that destroys us" [44].

4. Symptoms of depression

The symptoms of depression vary. Not all depression manifests with vegetative symptoms such as anhedonia, insomnia, and weight loss [37,45,46]. The so-called melancholic depression is less common than the paradoxically named atypical depression. In atypical depression, the afflicted person may have episodes of mood reactivity, extreme irritability when stressed, and improved mood with positive events. Symptoms are classed as reverse vegetative and may be characterized as producing weight gain and hypersomnolence [37].

In the workplace, depression and other affective disorders may manifest as irritability, altered appearance, weight change, forgetfulness, and disruptive behavior, as well as signs suggesting substance abuse. In addition, women in our specialty may have postpartum depression, rates of which in the general population vary from 5% to 25% of women after childbirth [47]. General symptoms of depression that may be observed are listed in Table 1.

Medical bullying [48-50], in which the victim senses that his or her life is controlled by others, surely adversely affects those anesthesiologists susceptible to depression [51-54]. Conversely, disruptive behavior by an anesthesiologist who previously has not acted in such a manner, may very well suggest depression or another affective disorder [37,55]. Those who are close to a colleague who behaves in such a way need to investigate the situation either gently or as an intervention, depending on the circumstances.

Table 1 General observed symptoms of depression

- Persistently sad, anxious, or empty mood
- Hopelessness
- Quietness
- Aloofness
- Restlessness, irritability
- Decreased energy, fatigue
- Feelings of guilt, worthlessness, helplessness, and failure
- Loss of interest in hobbies and activities
- No interest in work-related activities
- Difficulty concentrating, remembering, making decisions
- Overeating, or appetite loss
- Sleep problems
- Difficulty with interpersonal and/or professional relationships
- Substance abuse
- Thoughts of death or suicide; suicide attempts
- Medical errors: acts of commission or omission

5. Consequences of depression

5.1. Physical consequences

The most serious consequence of depression is death by suicide [56]. Other consequences relate to the physical effect of the body's response to stress. Cardiovascular disease is more common in those who have depression or have had a depressive episode [57]. The risk of myocardial infarction in depressed men is 4 to 5 times that of nondepressed men [58]. In patients with depression, the hypothalamic-pituitary-adrenal axis may be affected, producing higher-than-normal levels of cortisol [59]. The immediate manifestation of this surge is elevated blood pressure and heart rate, as well as adversely affected lipid profile. All of these features, of course, have been identified as risks for developing further cardiovascular disease [60]. In addition, decreases in bone mineral density due to the increased cortisol [61] are often seen as increasing the risk of osteoporosis [62,63]. There is evidence to suggest that cancer patients with depression have a lower survival rate [64]. Chronic and severe depression may even be associated with elevated cancer risk [65].

5.2. Family consequences

The effect of acute or chronic depression is not simply in the realm of the physical and emotional, but in the formation and care of social relationships such as with spouses and children [66]. Psychological and emotional consequences include substance abuse, decreased quality of life, family dysfunction, and divorce [67]. All of these issues affect the anesthesiologist's ability to focus his or her full attention on the safety of the patient.

5.3. Professional consequences

Burdens to the anesthesiology group or department reflect the negative financial and staffing aspects of depression. Absenteeism, decreased productivity, increased health insurance costs, workplace disruption, and tardiness ultimately affect all group members [33,37]. Colleagues who may be called upon to cover for a partner may develop increased stress in their lives. Damaged relations with other groups or departments in the medical community may occur. Most distressingly, owing to decreased vigilance and an inability to concentrate (which produces errors of commission or omission), harm may befall a patient.

5.4. Patient care consequences

A study by Fahrenkoph and associates showed that the rate of medication errors made by depressed pediatric residents in three major U.S. teaching hospitals was 6 times higher than for their nondepressed colleagues at the same institutions. The prevalence of depression in these

residents was 20%, which, the authors noted, was almost twice that of the general population [68]. Nearly half of the depressed residents were unaware of their depression. The data in this study were collected before implementation of the 80-hour work week limits. However, a subsequent 2008 study by Landrigan, Fahrenkoph, et al. of pediatric residents after the 80-hour work week limit, showed no change in depression rates from before. This study did not differentiate medication errors by depressed versus non-depressed residents [69]. A 2005 study of internal medicine residents did, however, show a decrease in depression from 51% to 41% after implementation of the new work hour guidelines [70]. In anesthesiology, the acuity of our patients and the urgency of care that we provide may translate into errors that can be catastrophic. Errors that lead to adverse outcomes inevitably produce two victims: the patient and the physician [71,72]. These errors lead to an increasingly depressed state for the practitioner. Subsequent litigation accelerates the downward spiral of stress and depression [73].

6. What must we do?

Anesthesiologists should do a better job of caring for their own health, including their mental health. Taking action to reduce the stress of the perioperative environment and its effect on our ability to care for patients improves the quality of life for all. In individuals genetically predisposed to stress disorders such as depression, it may mean the difference between safe and unsafe practice [74-78]. In addition, open and ongoing conversations within groups that recognize the reality of the situation in the OR and intensive care units may reduce the stigma associated with the mental and emotional issues that may be present in colleagues [18,44]. Similarly, attention to the details of the lives of colleagues can help to predict circumstances that produce or exacerbate depression.

State licensing boards can help to alleviate the stigma surrounding depression by revising attitudes about depressed physicians. Sanctions by state medical boards should be based on the degree of physical or psychiatric impairment, not on the presence of illness. The American Foundation for Suicide Prevention believes that state medical licensing boards should not ask about mental illness or treatment; rather, these boards should focus their questions on impairment from either physical or psychiatric illness [17].

In addition, state physician wellness programs, which have done much good work in dealing with physicians and substance abuse, should also focus on helping physicians who are dealing with affective disorders such as depression [79].

Another way to decrease this stigma is for anesthesiologists who have overcome depression to become advocates for improved mental hygiene and help. Anesthesiologists who have dealt with their own affective disorders must be role models and advocates of those who, for whatever reason, are not seeking help.

In fact, intervention may be necessary for those who refuse to seek treatment. Involvement by senior colleagues, family, friends, and clergy to convince the individual that he or she needs care can be a sobering reality check. Such methods are used often in those afflicted by substance abuse; these same techniques also may be used to benefit physicians with depression who are hesitant to seek treatment.

There must be a concerted effort to educate students and residents about depression and decrease the stigma associated with the diagnosis [80]. For years now, our specialty has educated resident anesthesiologists about physician impairment in terms of substance abuse. Programs are in place for physicians in training and also physicians in practice to educate themselves about the risks and the sequelae of substance abuse. Unfortunately, while the amount of education on substance abuse in the specialty has risen, the incidence of substance abuse has not decreased. While education about depression would not necessarily lower its incidence, the hope is that increased education would decrease the stigma and increase the number of those seeking treatment.

In fact, the consensus statement on physician depression and suicide from the 2003 JAMA report recommends that "The Liaison Committee on Medical Education and the Accreditation Committee on Medical Education should mandate that medical schools educate medical students and residents about depression and suicidality, encourage them to seek help, and offer social support for any student or resident who seeks help" [17].

Screening for depression by anesthesiology training programs is appropriate if a resident's affect and behavior show cause to suspect a problem. A two-question screening test for depression has been developed and validated based on the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (Table 2) [81]. A positive response to either question is extremely sensitive and identifies more than 90% of patients with major depression. It is only approximately 60% specific and requires confirmation using a detailed clinical interview [http://www.psqh.com/julaug06/disruptive.html].

The American Foundation for Suicide Prevention has a wealth of information on its website, www.afsp.org, and its companion site, www.doctorswithdepression.org. The documentary, Struggling in Silence: Physician Depression

Table 2 Two-question depression screening test

During the Past Month,
1. Have you often been bothered by feeling down, depressed, or hopeless? Yes/ No
2. Have you often been bothered by little interest or pleasure in doing things? Yes/ No

As developed and validated based on the Diagnostic and Statistical Manual of Mental Disorders, 4th ed. Arlington, VA: American Psychiatric Publishing, Inc.; 2002.

and Suicide, was originally aired on American public television (PBS) and is now available on DVD from the site. Much like residency programs across the nation that have shown the Wearing Masks series for several years, Struggling in Silence should also be part of the curriculum in anesthesiology.

Stress and depression are common in our colleagues. If it is not recognized, the outcome for the affected individual may be personally and professionally catastrophic. Depression is a disease process and should be treated as a disease process like diabetes or coronary disease. Depression must be recognized in others and in ourselves by asking the right questions to support and assist colleagues. Recognizing the signs is an important element of professionalism, and departments should identify avenues of help for clinicians and make it available without stigma.

Commonly cited stresses in anesthesiology include production pressure, working in isolation, and lack of respect. Some data suggest that the stereotype of the anesthesiologist as introverted, quiet, and nondomineering may be accurate, although these data are not statistically significant [74-76]. Despite this characterization, extroverted, self-assured, dominant anesthesia providers exist. In addition, not all introverted, quiet, nondomineering anesthesiologists become depressed or attempt suicide.

The suicide risk of 1.45 for anesthesiologists is well above the rate of other physicians, compared with a control group of internists [82]. Depression manifesting in susceptible anesthesiologists may lead to suicide, the final resting point of this frequently hidden disorder.

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