Update on the Diagnosis and Treatment of Social Anxiety Disorder

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Social anxiety disorder is characterized by marked fear of performance, excessive fear of scrutiny, and fear of acting in a way that will be embarrassing. Although the incidence of social anxiety disorder is approximately 13%, this disorder has been termed "the neglected anxiety disorder" because it is often missed as a diagnosis. Social anxiety disorder has an early onset in most patients and tends to manifest during adolescence. However, many patients do not receive therapy until a comorbid disorder (e.g., panic) is diagnosed later in life. There are 2 distinct subtypes of social anxiety disorder, generalized and nongeneralized, that differ in terms of symptoms, course of illness, morbidity, pathophysiology, and response to treatment. Both pharmacologic and psychotherapeutic treatments are effective, and the 2 modalities have complementary strengths. The selective serotonin reuptake inhibitors may be considered first-line therapy for the generalized subtype of social anxiety disorder because of proved efficacy and well-tolerated adverse effect profiles. Other agents may be useful for treatment-refractory patients. However, there is a substantial rate of relapse even after prolonged treatment. There is evidence that patients who receive cognitive-behavioral therapy may have lower rates of relapse. Early and aggressive treatment of social anxiety disorder may prevent development of comorbid disorders and can substantially improve patients' quality of life.

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The hallmark features of social anxiety disorder (social phobia) include marked fear of performance, excessive fear of scrutiny, and fear of acting in a way that may be embarrassing.[1] Many persons with social anxiety disorder tend to be exquisitely sensitive to negative criticism and rejection and may develop low self-esteem based on erroneous assumptions of others' opinions. Some patients may experience physiologic symptoms including blushing, trembling, and sweating in public situations and are anxious that others will notice these symptoms.[2]

Based on data from the National Comorbidity Survey, the lifetime prevalence of social anxiety disorder is 13.3%, and only major depression and alcohol dependence are more prevalent in the United States[3] (Figure 1). Social anxiety disorder is slightly more common in females, and the female-to-male prevalence ratio for social anxiety disorder is 1.4.[4]

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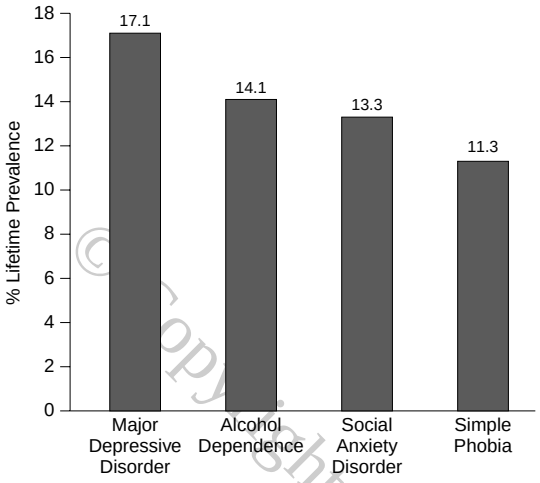
Another disturbing feature of social anxiety disorder is the early onset of the disease. The mean age at onset for social anxiety disorder is 15.5 years, and onset after the age of 25 years is uncommon.[5,6] Patients often recall initial symptoms of shyness and behavioral inhibition in the first 2 decades of life.[6] If left untreated, social anxiety disorder is often a chronic disease and usually does not resolve spontaneously.

Many patients with social anxiety disorder develop substantial functional disability. More than half of patients with social anxiety disorder suffer impairment in meeting educational goals, maintaining employment, and developing relationships.[7,8] Not surprisingly, social anxiety disorder is associated with financial difficulties. Twenty percent of patients with social anxiety disorder are on welfare.[5] There is evidence that 50% of patients with social anxiety disorder have tried alcohol to relieve anxiety.[2] Patients with social anxiety disorder also are more likely to live with their parents and may be unable to date or maintain romantic relationships.[4,7,8]

DIAGNOSIS

Patients with social anxiety disorder tend not to seek psychiatric care and initially may present to general practitioners with nondescript symptoms.[6] Because these individuals are fearful of social interactions, patients may not feel comfortable discussing symptoms with a physician.

Figure 1. National Comorbidity Survey Lifetime Prevalence Rates for Mood and Anxiety Disorders[a]



[a]Data from reference 3.

Consequently, social anxiety disorder is often missed as a diagnosis, and many patients are not diagnosed until a more well-known comorbid condition manifests.[9]

As described in the *Diagnostic and Statistical Manual of Mental Disorders*, the key feature of social anxiety disorder is persistent fear of social situations. Exposure to social or public situations may provoke an anxiety response, and feared situations typically are avoided or endured with extreme distress. Another feature of social anxiety disorder is that individuals recognize that their fear is unreasonable.[1]

Social anxiety disorder is best conceptualized as having 2 distinct subtypes, generalized and nongeneralized, which appear to differ in terms of symptoms, course of illness, morbidity, comorbidity, treatment response, and pathophysiology. The nongeneralized subtype is predominantly associated with performance anxiety (e.g., public speaking), whereas patients with the generalized subtype are anxious in most social situations.[10] Generalized social anxiety disorder is more disabling, and only one third of patients are diagnosed with the less common nongeneralized subtype.[11] Patients with generalized social anxiety disorder have increased social and occupational impairment and tend to have a higher incidence of comorbid depression or alcohol abuse.

Differential Diagnosis

It is important to recognize that many of the symptoms of social anxiety disorder are similar to those of other anxiety disorders (Table 1). However, the defining characteristic for patients with social anxiety disorder is that the fear and anxiety only occur in social or public situations or in anticipation of such situations.[1] When alone, patients with social anxiety disorder are able to function normally.

Table 1. Differential Diagnosis for Social Anxiety Disorder

Panic disorder/agoraphobia
Chronic depression/atypical depressive features
Alcohol/substance abuse
Avoidant personality disorder
Schizotypal, schizoid, paranoid conditions
Social anxiety secondary to minor physical abnormalities
"Offensive-type" social anxiety disorder

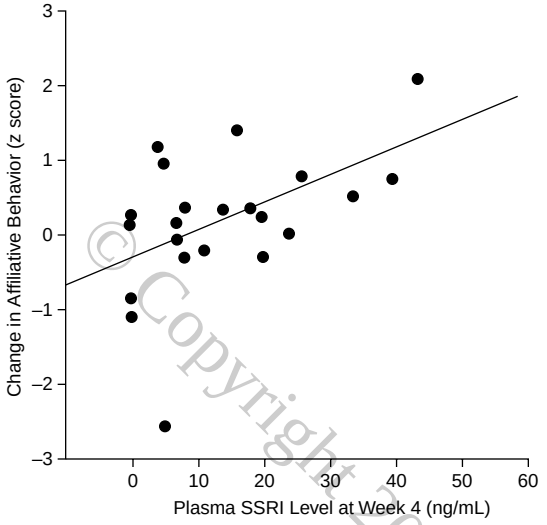
Patients with social anxiety disorder often describe panic attacks that may cause clinicians to suspect panic disorder. In these cases, it is critical to determine the circumstances of the panic attacks. For example, a person with social anxiety disorder may feel panicked on a subway car only if other people are looking at him, but would be perfectly comfortable alone in the same subway car. Conversely, patients with panic disorder may experience attacks at any time and may actually feel more comfortable in the presence of other people who might help them in the event of an attack.

Chronic depression often is a consequence of social phobia, and many patients with social anxiety disorder present with depressive symptoms. However, a careful history usually reveals that the patient had symptoms of social anxiety disorder before depression. Avoidant personality disorder has many features that overlap with social anxiety disorder. Schizoid conditions are distinguished from social anxiety disorder because patients with these symptoms have no desire to relate to other individuals, whereas patients with social anxiety disorder feel isolated and would seek personal relationships if they were not so anxious. Patients with social anxiety secondary to minor physical abnormalities, such as a stutter or familial tremor, are excluded from the diagnosis of social anxiety disorder because of the medical cause for their condition. However, these patients tend to have anxiety symptoms and treatment responses similar to those experienced by patients with social anxiety disorder. Patients with offensive-type social phobia erroneously believe that their presence or body odor makes others uncomfortable, leading to social avoidance. This type of social anxiety disorder is noted most frequently in Asian countries and also responds well to treatment.

Comorbidity

Because social anxiety disorder has an early onset, it precedes other comorbid conditions in more than 70% of patients.[5] Common comorbidities include agoraphobia, simple phobia, major depression, substance abuse disorders, and obsessive-compulsive disorder.[5] In a survey of 123 patients with social anxiety disorder, the rates of comorbid simple phobia (63%), agoraphobia (47%), generalized anxiety disorder (20%), depression (14%), alcohol abuse (12%), and panic disorder (10%) were exceptionally high, and 10% of patients had attempted suicide.[7] Many

Figure 2. Correlation of Changes in Affiliative Behavior With Plasma Paroxetine Levels for Normal Volunteers (N = 22)[a]



[a]Adapted from reference 13, with permission.
Abbreviation: SSRI = selective serotonin reuptake inhibitor.

patients with social anxiety disorder attempt to alleviate their symptoms by drinking alcohol, and high rates of alcohol abuse and dependence may result.[4,6,7] Data from the Epidemiologic Catchment Area study indicate that patients with social anxiety disorder are more likely to have suicidal thoughts compared with control patients, and the incidence of attempted suicide is higher in patients with comorbid conditions.[5] It is clear that patients with social anxiety disorder are at increased risk for developing comorbid disorders. However, early diagnosis and treatment of social anxiety disorder may prevent other disorders from developing.

PATHOPHYSIOLOGY

Nongeneralized social anxiety disorder may be associated with peripheral autonomic involvement. For example, anxiety symptoms and heart rate increase measurably when a person with nongeneralized social anxiety disorder is asked to speak in public.[12] Treatment with β-blockers on an as-needed basis significantly decreases the autonomic response and alleviates anxiety in these patients. However, generalized social anxiety disorder is a different condition and may be associated with a much different pathophysiology. Although many patients with generalized social anxiety disorder have public-speaking anxiety, they do not experience the same degree of autonomic arousal when asked to speak in public as patients with nongeneralized social anxiety disorder and do not seem to be as effectively treated with β-blockers.

It is hypothesized that patients with generalized social anxiety disorder may have central serotonergic dysregulation. Knutson and colleagues[13] demonstrated that normal subjects treated with paroxetine, 20 mg daily, experienced an increase in social affiliation compared with placebo-treated subjects, and higher plasma selective serotonin reuptake inhibitor (SSRI) levels were correlated with increased affiliative behavior (Figure 2). Furthermore, Tancer and associates[14] showed that following a challenge with fenfluramine, patients with social anxiety disorder exhibited significantly elevated cortisol levels compared with those of normal volunteers.

Table 2. Pharmacologic Treatment of Social Anxiety Disorder

Selective serotonin reuptake inhibitors
Monoamine oxidase inhibitors
β-Blockers
Benzodiazepines
Reversible inhibitors of monoamine oxidase A

Dopamine dysregulation also is suspected in patients with generalized social anxiety disorder.[15] Tiihonen and colleagues[16] evaluated the density of dopamine reuptake sites in patients with social anxiety disorder. Patients with social anxiety disorder exhibited lower striatal dopamine reuptake site densities compared with healthy subjects. More recently, Schneier and associates (F. R. Schneier, M.D.; M.R.L.; A. Abi-Dargham, M.D.; et al., unpublished data, 1999) have found decreased striatal dopamine D_2 binding in patients with generalized social anxiety disorder compared with normal controls.

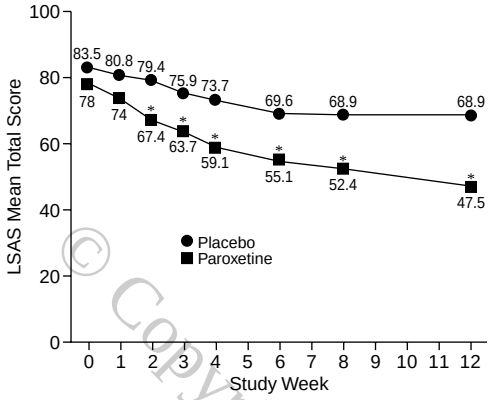
TREATMENT

Education and social support are important therapeutic components for patients with social anxiety disorder because these individuals are often isolated and have difficulty communicating with others. Many patients with social anxiety disorder feel that they alone have the condition. Appropriate education will help patients understand the illness, and social support may help patients cope with their symptoms and treatment.

Severity of illness, disease progression, and response to therapy may be monitored by a variety of clinical scales. The clinician-administered Liebowitz Social Anxiety Scale (LSAS; Appendix 3) is a 24-question scale that may be used to assess a patient's fear and avoidance of social or performance situations.[17] Other useful measures may include the Clinical Global Impressions scale,[18] the Sheehan Disability Scale (Appendix 4), and the Brief Social Phobia Scale.[19]

With regard to treatment, both pharmacologic (Table 2) and cognitive-behavioral approaches are effective, and the 2 modalities appear to have complementary strengths. The standard monoamine oxidase inhibitors (MAOIs) have well-demonstrated efficacy, and several controlled trials have shown marked acute benefits, even in highly dis-

Figure 3. Mean Total Score on Liebowitz Social Anxiety Scale (LSAS) for Paroxetine-Treated and Placebo-Treated Patients[a]



[a]Adapted from reference 30, with permission.
*p ≤ .001 vs. placebo.

abled patients with generalized social anxiety disorder.[20–22] Liebowitz and associates[21] randomly assigned 74 patients with social anxiety disorder to treatment with phenelzine, atenolol, or placebo for 8 weeks. Overall, 64% of patients responded to phenelzine compared with 30% and 23% for those treated with atenolol and placebo, respectively. Patients with generalized social anxiety disorder experienced the greatest response to phenelzine as compared with placebo. However, results with the reversible inhibitors of monoamine oxidase A have been more variable.[22–25] In an 8-week study evaluating the efficacy of moclobemide compared with placebo in patients with social anxiety disorder, there were no significant differences in number of responders between treatment groups.[25] Although the reversible inhibitors of monoamine oxidase A have fewer dietary restrictions compared with the MAOIs, these agents may not be promising in the treatment of social anxiety disorder. The high-potency benzodiazepine clonazepam also was effective in one trial and may be useful for treatment of acute symptoms.[26] However, the incidence of relapse is high when benzodiazepines are discontinued.[27] The tricyclic antidepressants do not appear to be effective for the treatment of social anxiety disorder.[28]

More recently, the SSRIs, including paroxetine, fluvoxamine, sertraline, and fluoxetine, have shown substantial acute efficacy in clinical trials and are emerging as a first-line treatment for social anxiety disorder.[29–32] The SSRIs are easily administered once daily and have a favorable adverse effect profile. Paroxetine is the most well studied SSRI to date in social anxiety disorder. In a double-blind, placebo-controlled study, the efficacy of paroxetine compared with placebo was evaluated in 187 patients with generalized social anxiety disorder. More than half of patients taking paroxetine (55%) were considered therapeutic responders based on Clinical Global Impressions-Global Improvement rating compared with 24% of patients treated with placebo ($p < .001$). In addition, patients treated with paroxetine had 39.1% reduction on the LSAS total score compared with 17.4% in the placebo group[30] (Figure 3). These findings suggest that the SSRIs should be considered first-line therapy for patients with social anxiety disorder.

A limitation of all medications studied to date is the substantial rate of relapse observed even after prolonged treatment. Cognitive-behavioral therapy (CBT) is efficacious for acute therapy, although somewhat less so than the MAOI phenelzine.[33] However, there appears to be a lower incidence of relapse following discontinuation of CBT.[34] This provides a potent rationale for assessing the acute and long-term effects of combined CBT and pharmacotherapy.

SUMMARY

Social anxiety disorder is a debilitating illness and should be regarded as a chronic disorder if left untreated. Furthermore, patients with social anxiety disorder often develop comorbid conditions and may suffer from substantial social and occupational dysfunction. Although the underlying pathophysiology of social anxiety disorder remains to be determined, there is evidence that central nervous system serotonergic and dopaminergic dysregulation may be involved, especially in the more disabling generalized subtype. Because patients with social anxiety disorder can be highly impaired functionally, aggressive diagnosis and treatment of the disorder are critical. Following appropriate diagnosis, the SSRIs may be considered initial therapy. The MAOIs also are effective and may be useful for treatment-refractory patients. Other agents, such as benzodiazepines or β-blockers, can be used on an as-needed or acute basis. In addition, psychosocial techniques can complement the effects of pharmacotherapy and may prevent relapse when medications are discontinued. Appropriate management of patients with social anxiety disorder will significantly improve quality of life and minimize psychosocial morbidity.

Drug names: atenolol (Tenormin and others), clonazepam (Klonopin and others), fluoxetine (Prozac), fluvoxamine (Luvox), paroxetine (Paxil), phenelzine (Nardil), sertraline (Zoloft).

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