A Storm Within

Recognizing the signs of a brewing anxiety disorder

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Sixteen-year-old Hannah is a picture-perfect Middle Tennessee teenager.

A straight-A student, beautiful, active and musically talented, she starred in her high school’s spring musical.

Hannah (not her real name) hid a brewing anxiety disorder so well that even her mother had no idea she was becoming incapacitated by it—until she came home from a movie with her boyfriend last spring and quietly said that she had thought about committing suicide that night.

Already seeing a therapist, Hannah assured her mom that she would tell her if she had suicidal thoughts again. The therapist worked with her on relaxation techniques.

“I had never faced a situation like this before,” her mother recalls. “I had no idea that depression and anxiety had built up to the level it had.”

Then, one day her mother received a call from the nurse’s office at Hannah’s high school. Hannah was having a panic attack. “The nurse told me that I needed to come and get her and that they couldn’t release her until I agreed to take her to Vanderbilt for evaluation,” her mother said.

Hannah spent five days at Vanderbilt Psychiatric Hospital. “Leaving her was the hardest thing I’ve ever had to do,” her mother said. “It’s one of those things you would never in a million years think would happen to you. It was heart wrenching. But we have learned so much about ourselves and the signs that we missed. I just didn’t see the warning signals.”

But they had been there—frequent unexplained headaches and stomachaches as a child; problems separating from her parents; disliking Sunday nights (dreading school on Monday); and an inability to put stressful events behind her.

Anxiety, a normal reaction to stress, can become a problem when it’s an excessive, irrational dread of everyday situations that becomes disabling, according to the National Institute of Mental Health (NIMH). About 8 percent of teens have an anxiety disorder, with symptoms commonly emerging around age 6. Anxiety disorders are highly treatable, although only about one-third of those who suffer from them receive treatment, according to the NIMH.

Hannah, currently being treated with a combination of behavioral therapy and medication by Cheryl Cobb, M.D., assistant professor of Psychiatry at Vanderbilt University Medical Center (VUMC), was good at masking the outward display of her emotions. “She internalized her anxiety, and she has obsessive-compulsive tendencies,” her mother said. “There were a lot of things about her personality I should have seen years ago.”

A mind filled with ‘what ifs’

Todd Peters, M.D., assistant professor of Psychiatry at VUMC, says that fear is a protective mechanism that is ingrained in humans. “It pays to be anxious at times,” he said. For example, if a vicious animal is coming toward you, you need to be anxious and go into fight or flight mode.

“But when people develop anxiety disorders, I think of it as a car alarm going off in a parking lot when nobody is around to touch it. The wiring gets faulty and your anxiety meter is triggered and tripped off when it doesn’t need to be, and you perceive situations as anxiety provoking or dangerous to your health that don’t really need to be.”

The Diagnostic and Statistical Manual of Mental Disorders (DSM), the standard classification of mental disorders used by mental health professionals, has listed five
major types of anxiety disorders:
Generalized Anxiety Disorder, Panic Disorder, Social Phobia (or Social Anxiety Disorder), Obsessive Compulsive Disorder (OCD) and Post-Traumatic Stress Disorder (PTSD). However, the anxiety chapter in the most recent DSM-V no longer includes OCD or PTSD. They have been relocated to their own chapters.

Peters said that people with Generalized Anxiety Disorder, like Hannah, usually become incapacitated by the “what ifs.” “It’s like having a worry queue in your head with a long lineup of worries. The worries go on 24/7 and you have a worry meter that’s always going off. When one worry pops out of the queue, another pops in.”

Peters said that thoughts can become distorted, and worries, disabling. “Sometimes worries are justified. Bad things happen and your worst fears end up being reality, but if you consistently worry about those worst things happening, it can incapacitate you and make you nonfunctional. There are risks to living in general, but if you’re so handcuffed by those risks, you can’t live the life you want to live. The ‘what ifs’ shouldn’t control your life.”

We all know people who worry excessively, Peters said. “Maybe Grandma wasn’t just a worry wart. She might have had a Generalized Anxiety Disorder.”

Peters said that anxious people often become tired, run down, irritable, have insomnia and suffer from pain and other somatic complaints. Suffering from anxiety also opens the door for other issues like substance abuse and depression.

“When we think about our brains operating like a computer, anxiety is a huge program that’s running in the foreground, slowing everything else down on the computer.”

Treating the anxious patient

Treatment for anxiety disorders depends on the type and the patient, Peters said. For milder cases, cognitive behavioral therapy (CBT) alone may work. For moderate to severe cases, a combination of medication and CBT is normally recommended.

CBT is usually individualized for each patient. “We have to look at how certain feelings and thoughts lead to certain behaviors, and try to learn how these thoughts and behaviors are intertwined,” he said.

People suffering from anxiety disorders need to learn a new thought process, he said. Talking through situations that make a person anxious can help, and staging situations (for specific phobias, like a fear of snakes) where people are exposed to situations in a controlled, progressive way is often helpful.

“We help people overcome their fears so they’re not incapacitated by them,” he said. For those with generalized anxiety, mindfulness techniques, progressive muscle relaxation and deep breathing techniques can help.

Peters said there’s no evidence that anxiety disorders are increasing, but with the destigmatization of mental health issues, people who have them are more open to seeking help.

Health care providers are also becoming more adept at identifying anxiety disorders, he said. Anxious people usually present first to primary care physicians, often having repeated visits for unexplained medical complaints like headaches and stomachaches.

Do anxious children become anxious adults? Not always, Peters said, but it definitely increases the risk (see sidebar on page 25).

“Anxiety disorders, even those that are treated, can come and go through different phases of your life,” Peters said.

“A child may start out with separation anxiety, then have generalized anxiety during adolescence, then social anxiety once they get to high school. Think of anxiety like a game of Whac-a-Mole. You might have a period of time where you meet the criteria for an anxiety disorder, then with treatment or through the natural course of things, it abates, and then pops up again.”

Look no further than the amygdala

The amygdala is the brain’s threat detection system, often called its fear center. At the first glimpse of a potentially
fearful situation, the almond-shaped set of neurons located deep within the brain’s temporal lobe sends signals out to the other parts of the brain to get the adrenaline and cortisol, the primary stress hormone, flowing.

Conditions like anxiety disorders, depression, post-traumatic stress disorder and phobias are all believed to be linked to the amygdala.

“We need the amygdala, but we also need another part of the brain to be able to shut it down when you determine, ‘oh actually, I’m safe,’” said Jennifer Urbano Blackford, Ph.D., assistant professor of Psychiatry and Psychology. Blackford, who studies the genetic and neural roots of anxiety vulnerability, said there are a couple of theories that might be occurring in those with anxiety disorders.

“The circuit that helps shut down the amygdala might not be functioning properly,” she said. “Another theory is that the amygdala is getting engaged too easily in people who are anxious. It might be hyper reactive. Or you could have both of those things happening—the amygdala may be too sensitive to the potential threat, and when it is, it can’t turn off properly.”

“We’ve learned a lot about the neuroscience of anxiety by studying fear,” she said. “Fear is very normal and adaptive. You should actually be afraid of threatening things. It becomes an anxiety disorder when you’re afraid of things that can’t actually hurt you.”

Blackford and colleagues studied a group of inhibited (shy) individuals, who are at high risk for developing anxiety and depression, and compared them to uninhibited individuals who are at very low risk. Each group was repeatedly shown pictures of unfamiliar faces to see how the amygdala responds. The theory is that anxiety vulnerability might be the result of deficits in the amygdala.

Functional Magnetic Resonance Imaging (fMRI) was used to examine the brains of both groups of these individuals.

Blackford’s study, published in the journal Social Cognitive and Affective Neuroscience, found that the individuals who identified themselves as inhibited or shy may experience habituation failure, or the inability to adapt to new stimuli, in the amygdala.

The brain response of the low-risk uninhibited individuals increased when the faces were new, but declined as they became familiar. In contrast, the high-risk inhibited individuals failed to show the habituation decline.

Blackford and her colleagues think the failure to habituate may be a key cause of Social Anxiety Disorder, the second most common anxiety disorder, affecting approximately one in 10 adults in the United States.

Blackford’s group is now studying the brains of both adults and children at high risk for developing anxiety to see what happens when they’re anticipating something frightening. “Anticipatory anxiety is a huge part of anxiety for children who have worry or social anxiety—the fear of what’s going to happen,” she said.

They are also following high-risk children and will look to see if there’s something in the brain early on that will predict who will develop an anxiety disorder.

All of the Vanderbilt studies may someday help children and adolescents like Hannah who live with anxiety.

Hannah’s panic episodes are less severe, her mother says, and she’s making great strides.

“Everybody has great confidence that she’s going to be fine. I just didn’t realize how hard it is for someone wired like she is. My hope for her is that she will be happy and feel content and safe and able to move ahead.

“She’s learning to manage her feelings and learning how to let things go. She feels a lot better. She’s in a much better place.”

ABDOMINAL PAIN AND ANXIETY—IS THERE A LINK?

A Vanderbilt University study recently looked a little closer at a common childhood complaint—“my tummy hurts”—to see whether children with frequent functional abdominal pain (FAP) are more prone to anxiety disorders.

The study, published in August 2013, in the journal Pediatrics, tracked 332 children with FAP [abdominal pain without a medical cause] between the ages of 8 and 17, comparing them with 147 children reaching adulthood who had never had FAP.

The researchers caught up with the kids when they were around 20 to see if they had any symptoms of anxiety or depression.

A little more than half of the children who had FAP as children had an anxiety disorder at some time in their life. Thirty percent of those had a current anxiety disorder diagnosis when they were surveyed. And 40 percent of the children with FAP experienced depression as they were growing up, compared with 16 percent of those who had never experienced the abdominal pain.

“Anxious children are more likely to worry about pain and cautiously avoid activities—such as school—where they might have pain. This makes it more difficult for them to cope with pain and over time creates stress, such as getting behind in schoolwork, that can further exacerbate pain, anxiety and disability,” said study author Lynn Walker, Ph.D., professor of Pediatrics and Psychology.

A decade ago a well-publicized study determined that youth who presented with chronic stomach pain in primary care deserved careful assessment for anxiety and depressive disorders. But until the Vanderbilt study there has been no controlled prospective study that evaluated psychiatric outcomes for FAP patients in adulthood.

Social anxiety disorder was particularly common in the pediatric FAP patients. Patients with FAP carry a long-term vulnerability to anxiety that begins in childhood and persists into later adolescence and early adulthood, even if abdominal pain resolves, the study showed.