After Janice Van Wagner’s mother died of breast cancer two years ago, her sense of loss was overwhelming.

“I was devastated,” said Van Wagner, 34, of Los Angeles. “I felt like a piece of me had gone missing. It was like I was split in two.”

While most people grieve when someone close to them dies, the emotional intensity tends to recede with time. But for some, like Van Wagner, their pain persists, sometimes for months or even years, often making it impossible to resume a normal life.

“I was kind of stuck in a repetitive thinking about the suffering that she went through in the last month of her life and the last few weeks,” Van Wagner said. “I just kept reliving that over and over again in my mind.”

This unrelenting form of mourning, which affects an estimated 10 percent to 20 percent of people who have lost someone close, is gaining recognition as a distinct psychological syndrome known as “complicated grief.”

Now, in the first attempt to study it with brain scanning technology, researchers have found a biological clue that appears to help confirm the existence of the syndrome and explain why it happens.

“This is very important,” said Camille B. Wortman, a professor of psychology at Stony Brook University in New York. “I think it has very important implications for how grief is conceptualized and how it is treated.”

While cautioning that the findings need to be confirmed and explored by additional research, others agreed.

“This shows that there’s actually a difference in the brains of people who have the syndrome compared to the ones who don’t,” said Katherine Shear, a professor of psychiatry at Columbia University. “Some people are still confused by the fact that it does resemble regular grief.”

For the study, Mary-Frances O’Connor of the University of California at Los Angeles and her colleagues conducted functional magnetic resonance imaging (fMRI) on 11 women experiencing complicated grief, including Van Wagner, and 12 others who grieved more normally following the
death of a mother or sister from breast cancer. During the scans, which show what parts of the brain are active at a given moment, each woman was asked to look at a picture of her lost loved one, with words superimposed to remind her of the death, or at similar pictures of strangers.

“I wanted to know if there is something different in the brain when people are processing their grief in those who are adapting well and those who are not adapting well,” O’Connor said. “The question was: Are their brains processing their grief differently?”

In all the women, the parts of the brain involved in physical and emotional pain activated only when they saw the pictures of their loved ones. But in the women experiencing complicated grief, another area also lighted up. Called the nucleus accumbens, it is part of the brain’s reward system, the researchers report in a paper being published this month in the journal NeuroImage.

“At first, we found this very strange,” O’Connor said. “It seemed like it would be a good thing to experience a reward. So why would you find this in a group that is not doing well?”

One of the hallmarks of complicated grief, however, is a persistent sense of longing for the lost one and a tendency to conjure up reveries of that person.

“It’s an intense feeling of wanting that person back,” Van Wagner said, noting it was sometimes so overwhelming that music became unbearable because it reminded her too much of her mother. “It’s an extreme yearning.”

Because the nucleus accumbens is involved in anticipating a reward, this might explain why people suffering complex grief are unable to move on, O’Connor and others suspect.

“This is the part of the brain involved in knowing that you want something,” she said. “When people who are not adjusting well are having these sorts of thoughts about the person, they are experiencing this reward pathway being activated. They really are craving in a way that perhaps is not allowing them or helping them adapt to the new reality.”

The same brain system is involved in other powerful cravings, such those that afflict drug addicts and alcoholics.

“One reason they are stuck is they are getting something pleasurable about thinking about and immersing themselves in memories of the deceased,” said Holly Prigerson, an associate professor of psychiatry at Harvard Medical School. “It’s like they’re addicted to the happy memories.”

The findings could help explain why drugs used to treat depression are generally ineffective for complicated grief: They affect a different brain system involving the neurotransmitter serotonin. Drugs that affect the dopamine, a different chemical messenger that is involved with the nucleus accumbens, might be more effective.

In addition, the findings could provide insights that could lead to improved psychotherapy for complicated grief, which has proven highly resistant to therapies used for depression.

“It’s almost as though the emotional part of their brains still thinks the person is around,” Shear said.
“The thinking part of the brain knows they have died. But that information hasn’t gotten integrated into the emotional part of the brain.”

Shear has had better success treating such patients by focusing on the details of the death, which she thinks helps the brain make that connection.

“You have to help the person’s thinking brain communicate better with their emotional brain,” Shear said. “This really tells us it’s important that we address the reality of the loss so the person can stop craving.”

Van Wagner, who has begun to feel better in recent months, said she hoped the findings will lead to better treatments and greater appreciation that not everyone grieves the same way.

“You feel outside pressure that you should be over it by now and move on,” she said. “Knowing there’s a reason for it, that there is something concrete going on, so to speak, somehow helps.”