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SPECIAL ARTICLE

Virginia Woolf, neuroprogression, and bipolar disorder

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Family history and traumatic experiences are factors linked to bipolar disorder. It is known that the lifetime risk of bipolar disorder in relatives of a bipolar proband are 5-10% for first degree relatives and 40-70% for monozygotic co-twins. It is also known that patients with early childhood trauma present earlier onset of bipolar disorder, increased number of manic episodes, and more suicide attempts. We have recently reported that childhood trauma partly mediates the effect of family history on bipolar disorder diagnosis. In light of these findings from the scientific literature, we reviewed the work of British writer Virginia Woolf, who allegedly suffered from bipolar disorder. Her disorder was strongly related to her family background. Moreover, Virginia Woolf was sexually molested by her half siblings for nine years. Her bipolar disorder symptoms presented a pernicious course, associated with hospitalizations, suicidal behavioral, and functional impairment. The concept of neuroprogression has been used to explain the clinical deterioration that takes places in a subgroup of bipolar disorder patients. The examination of Virgina Woolf's biography and art can provide clinicians with important insights about the course of bipolar disorder.

Keywords: Mood disorders; bipolar; suicide; stress; sexual assault; cognitive neuroscience

Family history and traumatic experiences are factors linked to bipolar disorder (BD). It is known that the lifetime risk of BD in relatives of a bipolar proband are 5-10% for first degree relatives and 40-70% for monozygotic co-twins.[1] It is also known that patients with early childhood trauma present earlier onset of BD, increased number of manic episodes, faster cycling pattern, and more suicide attempts.[2]

Additionally, we have recently reported that childhood trauma partly mediates the effect of family history on BD diagnosis.[3] It is noteworthy that sexual abuse was associated with BD in our study, but not with major depressive disorder.[3] Moreover, other authors have reported that illness trajectories are largely variable in bipolar disorder.[4] It seems that a subset of patients may develop a neuroprogressive course associated with poor outcomes, such as suicide attempts, hospitalization, and functional and neurocognitive impairment.[4] In light of these findings, we reviewed the biography and work of Virginia Woolf, one of the most renowned female writers of the 20th century and amongst the finest British novelists ever, and who, according to biographers, suffered from bipolar disorder.[5,6]

Mental illness in Virginia Woolf's family can be traced back to James Stephen, her grandfather on her father's side. James was allegedly cyclothymic and, according to Bell, also given to self-mortification and depression.[7] He was eventually institutionalized, after running naked through Cambridge. He died in an asylum. Virginia Woolf's parents also suffered from mental disorders - her father was what at the time was called cyclothymic, whereas her mother suffered from depression.[6] Sir George Savage, a prominent psychiatrist in the late 19th and early 20th centuries, diagnosed Virginia's father Leslie with ''neurasthenia,'' a common medical term used in the late 19th to early 20th centuries.[8-10] Her half-sister Laura, who spent most of her life at the Priory Hospital Southgate in London, is believed to have had some type of psychosis. Her specific mental illness (or illnesses), however, is yet unknown.[6] Amongst Virginia's other siblings, both Vanessa and Adrian appear to have been cyclothymic, and Thoby was known to have hypomanic episodes.[6] Hence, Virginia's BD symptoms appear to be strongly linked to her family background.

Virginia's biological inheritance translated into great risk of developing mental illness. Nevertheless, it could be argued that her disease would have been milder had she not been exposed to childhood traumatic experiences.[11] Virginia Woolf was sexually abused by her half siblings, George and Gerald Duckworth, for nine years.[6] According to De Salvo, ''these experiences had spoiled her life before it had fairly begun.''[10] When she was only six, Gerald molested her while the Stephen family was vacationing in St. Ives, Cornwall. George's advances would not come until seven years later, after their mother Julia had passed away. The age difference between Virginia and her brothers should be noted - Gerald was 16 years her senior, and George was

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15 older. Below is Virginia's account of Gerald's first sexual move towards her.[12]

> There was a slab outside the dining room door for standing dishes upon. Once, when I was very small, Gerald Duckworth lifted me onto this, and as I sat there he began to explore my body. I can remember the feel of his hand going under my clothes; going firmly and steadily lower and lower. I remember how I hoped that he would stop; how I stiffened and wriggled as his hand approached my private parts. But it did not stop. His hand explored my private parts too. I remember resenting, disliking it - what is the word for so dumb and mixed a feeling? It must have been strong, since I still recall it. This seems to show that a feeling about certain parts of the body; how they must not be touched; how it is wrong to allow them to be touched; must be instinctive. (Poole,[13] p. 25)

Virginia Woolf also left written accounts about how, after the death of her mother Julia, her half-brother George would enter her room and enthusiastically lie next to her and take her into his arms. She later wrote about his "violent guts of passion," and that his behavior was "a little better than a brute's."[13] In "22 Hyde Park Gate," Virginia describes George sexual advances towards her. Virginia noticed that someone had entered her room as she was lying in bed trying to sleep. Her account is as follows:

> Who? I cried.
>
> Don't be frightened, George whispered. And don't turn on the light, oh beloved!
>
> Beloved - and flung himself on my bed, and took me in his arms. (Poole,[13] p. 111)

De Salvo suggested that[14] Virginia Woolf later attempted to "heal her childhood wounds" through writing.[14]

Such issues may have emerged in her writing of the novel *The Wise Virgins*, which was started during her honeymoon. The novel's main character, Camilla, bears enormous resemblance to Virginia Woolf in her attitudes towards sex, such as fear and sometimes aversion to it.[15] Even so, Virginia hoped to have children. Shortly after her wedding, Virginia was heartbroken when her doctors advised her to refrain from motherhood on account of her ongoing mental health issues.[16]

As mentioned at the beginning of this article, early trauma is associated with increased number of suicide attempts in patients with BD.[2] Virginia Woolf's first suicide attempt happened when she was 22 years old, after her father's death.[16] Having withstood her mother's and Stella's death, her father's departure triggered an even greater depression that seemed too much to bear for someone who was already in the doldrums. She tried to jump out of a window in the family's home in London. Fortunately, the window she jumped from was not high enough to cause her any major injuries. She was hospitalized for a short period but soon returned home.[17] Her second suicide attempt was very serious and happened in 1913, when Virginia was 31 years old.[18] This time she attempted suicide by taking 100 g of barbital. She would have died if it weren't for Leonard and two physicians, Henry Head and Geoffrey Keynes, who came to the home and pumped Virginia's stomach with a pump borrowed from St. Bartholomew's hospital. Henry Head was an English neurologist whom Virginia was supposed to see in London, and Geoffrey was the brother of an acquaintance from the Bloomsbury Group who lived in Brunswick Square. Throughout her recovery, her writing and reading were rationed, and she was only considered fully recovered in August 1914.

From 1910 to 1913 Virginia was hospitalized several times for suicide attempts, and was submitted to "rest cure therapy" at a "private nursing home for women" in Twickenham.[19,20] The therapy consisted mainly in gaining weight, sleeping, and "rest of the intellect." Virginia loathed her institutionalizations but somehow agreed that they were her only way towards recovering her sanity. Virginia went through several severe depressive and manic episodes until she committed suicide. Many of the episodes preceded the release of her books, always a cause of anxiety and self-doubt. Leonard often had her "institutionalized at home," cared by one or several nurses, depending on the severity of the episode.[21] It seems that Virginia had decided to end her life, and some scholars believe she tried to drown herself one week before finally "succeeding at it." One evening, she arrived home soaking wet after a failed suicide attempt. According to Leonard, she looked ill and shaken but she told him that she had slipped into a dyke.[16]

One week later, Virginia Woolf filled her overcoat pockets with heavy stones and headed to the River Ouse to never return. She died at the age of 59. At that time the couple was living at Hogarth House in Roadmell, East Sussex. She had been severely depressed. Despite Leonard's attempts to keep her sane (he himself was also depressed), and despite the involvement of Dr. Octavia Wilberforce's, his efforts were, sadly, of no use.

Towards the end of her life, Virginia's mental health deteriorated even further. According to her biographer's account, she became suspicious, even paranoid.[16,17] She started to doubt her publisher's praise of her soon to be published *Between the Acts*. She wanted to revise it further, but mentions in her diaries that she felt that she could no longer write, that she was "losing her art."[22] Apparently there was some truth in her editor's lack of certainty towards her work.[23] It is known that some of her publishers started to become ambivalent towards her work, which was a major blow to her ego. Her inability to read and concentrate, and also to perform "the simplest of tasks" such as holding a pen for long periods time was clearly unbearable to her.[23] Throughout the last years of her life, symptoms of mood episodes typical of BD occurred increasingly more frequently, despite the fact that they were not new to Virginia. The episodes would start with sleeplessness, progressing to hearing voices.

The course of BD is highly variable, but it seems that Virginia Woolf presented a pernicious course, associated with hospitalizations, suicidal behavior, and cognitive impairment. Recently, the term neuroprogression was proposed in order to explain why a subset of BD patients might experience a worsening of their mental health over time.[24] Neuroprogression has been hypothesized as the pathological rewiring of the brain that takes place in parallel with cognitive, functional, and clinical deterioration in the course of BD.[4] In this sense, reductions in

the volume of the fronto-limbic system and cognitive impairment have been reported as a function of previous manic episodes and hospitalizations.[25-28] In addition, it has been proposed that trauma and number of mood episodes may show sensitization to themselves and cross-sensitization to one another, leading to residual vulnerability to further occurrences of mood episodes and faster illness progression.[29] The progression of Woolf's BD seems to fit the model proposed by the hypothesis of neuroprogression - this is supported by some of her final diary entries and the suicide note she left to Leonard:

> I feel certain that I am going mad again. I feel we can't go through another of these terrible times. And I shan't recover this time. I begin to hear voices and I can't concentrate. So I am doing what seems the best thing to do. (Glendinning,[30] p. 323)

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