Two patients died in our cohort: one committed suicide and the second one asked for assisted suicide. Suicidality is an important matter , especially when managing patients with psychiatric disorders. In fact, the first patient who committed suicide, did not experience any suicide ideation before she committed suicide. She was by the way, an excellent responder to DBS and she had personal issues related to a divorce when she died as confirmed a posteriori by her general practitioner. However, one cannot be certain what would have happened without STN stimulation but in that case, the relationship between STN –DBS and the cause of the suicide is very unlikely.

More precisely she committed suicide 5 years after surgery, while her OCD was persistently improved (YBOCS score= 6, no medication required, the SSRI agent being discontinued 2 years after surgery). As she lived far from Grenoble center, her routinely medical follow-up was assumed locally. She has had a global psychiatric assessment in our centre 1year and 4 months before her suicide when we noticed persistent OCD improvement, normal mood (MADRS score <7), and good DBS tolerance with, particularly, no impulsivity. During initial, post surgery, DBS adjustment, she had experienced hyperthymic mood under most ventral contacts stimulation (which have not eventually be chosen for long term stimulation). When we tried to schedule a new clinical assessment in our centre, we learned about her suicide from her general practitioner. Ten months before suicide she had a miscarriage. Before suicide, she was engaged in a separation from her boyfriend and she contacted a new psychiatrist 1 week before. Tragically, we also learned that she was 4 month pregnant when she died.

The second patient has a different story. First, he had a personality disorder history, including anankastic, avoidant and, mainly, dependent traits, as well as addictive behaviours (alcohol, sometimes cannabis) and a major depressive disorder, besides his OCD. His biographical history included some emotional neglect; he was in disability for psychiatric reasons for 27 years before DBS. Related to his depressive disorder, we may notice in his medical history 3 serious suicide attempts (medication, gaz intoxication, mostly fostered by alcohol intake), last one 5 years before including him in the DBS protocol. He has been clinically and biologically monitored on a regular basis for mood stability and alcohol/drug abstinence, as well as some last conventional treatment options for OCD during 2 years previous to his inclusion in the DBS study. Second, OCD was not improved significantly during the 2 years following surgery and this might have been disappointing for the patient, despite pre-op preparation on his expectations . Patient considered DBS as last therapeutical option and preferred getting off the initial protocol 6 months after surgery in order to benefit of freely adjusted DBS and not following the pre-established rules of this protocol. Disappointment regarding the insignificant benefit (less than 20% improvement) may have reinforced his willingness to commit suicide despite a very close clinical monitoring. Potentially, alcohol intake, which has been noticed incidentally during an institutional CBT in a specialized clinic stay 10 months before his death, may have also promoted emotional instability. However, he did not commit suicide himself but asked for euthanasia, which might be interpreted as a clear depressive state but without obvious impulsivity that would have pushed him to commit suicide.