



Impact of Covid-19 pandemic in patients with Huntington Disease

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The existence of a close relationship between Covid-19 and neurological and psychiatric disorders brings up some fundamental questions. First, whether Huntington disease (HD) patients have increased morbidity and mortality related to Covid-19 infection. Second, whether and in what way Covid-19 pandemic may have modified the clinical course of the pre-existing neurological disease. In HD patients, the pandemic has had direct implications on the infection itself and indirect consequences resulting from restrictive measures. The aim of our work was to assess the impact of Covid-19 pandemic on HD disease progression, to evaluate patients vulnerability to Covid-19 infection and the incidence of severe manifestations compared to the general population.

Methods

After obtaining oral informed consent, we conducted a telephone interview directed to patients or caregivers, using an ad hoc developed semi-structured questionnaire. The questionnaire was composed of two sections and is shown in Table 1.

Table 1

Section one: telephone interview to HD patients

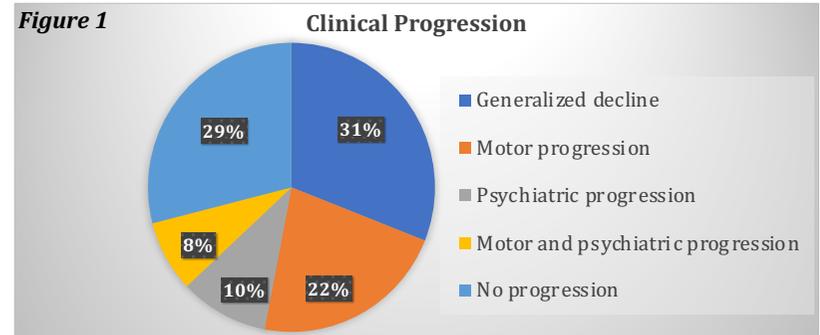
| Questions | Responses |
|--|---|
| Patient's Age | _____ |
| Patient's Gender | <input type="radio"/> Male <input type="radio"/> Female |
| Year of HD diagnosis | _____ |
| Are you experiencing a decline in your clinical condition since the beginning of the pandemic? | <input type="radio"/> Yes <input type="radio"/> No |
| If yes, which are the domains affected? | _____ |
| Are you experiencing new sleep disturbances? | <input type="radio"/> Yes <input type="radio"/> No |
| Did you have to stop physiotherapy and speech therapy because of the pandemic? | <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> I never started them |
| Did you have to miss medical visits because of the pandemic? | <input type="radio"/> Yes <input type="radio"/> No |
| Did you ever tested positive for COVID19? | <input type="radio"/> Yes <input type="radio"/> No |

Section two: telephone interview to HD patients tested positive for Covid-19

| Questions | Responses |
|---|--|
| Date of the first positive nasopharyngeal swab | _____ |
| Date of the first negative nasopharyngeal swab | _____ |
| Did you experience symptoms? | <input type="radio"/> Yes <input type="radio"/> No |
| If yes | |
| <input type="radio"/> Which type of symptoms? | _____ |
| <input type="radio"/> How long did these symptoms last? | _____ |
| <input type="radio"/> Did you achieve clinical resolution? | <input type="radio"/> Yes <input type="radio"/> No |
| <input type="radio"/> If you didn't achieve clinical resolution, which symptoms are you still experiencing? | _____ |
| Did you start a medical therapy? | <input type="radio"/> Yes <input type="radio"/> No |
| If yes, which drugs did you use? | _____ |
| Did you require hospitalization? | <input type="radio"/> Yes <input type="radio"/> No |
| If yes | |
| <input type="radio"/> in which type of hospital unit did you receive care? | <input type="radio"/> Non-intensive Care unit <input type="radio"/> Intensive Care unit |
| <input type="radio"/> Did you require respiratory support? | <input type="radio"/> Yes <input type="radio"/> No |
| <input type="radio"/> If yes, which type of respiratory support did you use? | _____ |
| Did you undergo any radiological examination? | <input type="radio"/> Yes <input type="radio"/> No |
| If yes, which type of examination did you undergo? | _____ |

Results

We interviewed a total of 112 HD patients. Since the beginning of the pandemic, 72.3% of patients experienced a progression of the basal clinical condition (figure 1). Thirty-one-percent of patients changed their pre-existing psychiatric therapy or started a new one. Interestingly, 50% described the onset of a new sleep disorder. Analysis of the standards of care showed that 78% of the patients missed their scheduled medical visit and 64.7% stopped physiotherapy. Within the observed cohort 10.8% of patients tested positive for Covid-19 infection, 6 experienced symptoms and 5 of them had comorbidities. Despite resolution of the infection 3 patients underwent a rapid progressive and generalized clinical worsening.



Our study was among one of the first to investigate the impact of the Covid-19 pandemic on HD patients. Our results shown that most patients experienced a global clinical worsening since the beginning of the pandemic. Despite the more severe confinement measure adopted by HD patients, the incidence, and the morbidity of Covid-19 infection seemed to be higher than the general population (Buder, et al., 2021). Whether HD represents per se a risk factor for COVID-19 is unclear. However, a negative impact of HD on the immune system has been described, and difficulties in swallowing and clearing secretions may have negatively impacted the disease course.