

Virtual Reality for Post COVID-19 Stroke: A Case Report

Authors : Kasra Afsahi, Maryam Soheilifar

Abstract : COVID-19 has been associated with stroke and neurological complications. The patient was a 59-year-old male who presented with sudden left hemiparesis and diplopia due to cavernous sinus thrombosis (CST) on 28/03/2020. The COVID-19 test was positive. Multislice CT (MSCT) showed ischemic infarction. He underwent surgical sinectomy 9 days after admission. Physiotherapy began for him in August 2020. Our game-based virtual reality (VR) technology developed for stroke patients was based on upper extremity exercises and function for stroke. After 6 weeks of VR therapy plus conventional physiotherapy exercises (18 sessions, three times per week, 60 minutes each session), there were significant improvements in Brunnstrom Motor Recovery Stage (from "4" to "5"), Fugl-Meyer Scale score of upper extremity section (from 49 to 54), and Modified Barthel Index (from 15 to 18). There were no adverse effects. This case with stroke post-COVID-19 due to the CST showed the usefulness of VR therapy used as an adjunct to conventional physiotherapy in improving affected upper extremity.

Keywords : COVID-19, stroke, virtual reality, rehabilitation

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