

Background/

Introduction:

Since COVID-19, a reduction of social activities and rapid adoption of telemedicine, decreasing face-to-face encounters, seems to have negatively affected the timely IS referral with a spine specialist. We aim to document the progression of IS curves during COVID-19 pandemic reflected by the late presentation of patients at the initial visit with higher Cobb angles. Purpose of the study: We aim to study how the delayed face-to-face primary health-care consultation related to COVID-19 pandemic has impacted negatively prompt referral of patients with Idiopathic Scoliosis (IS), larger Cobb angles at initial visit lead to increased posterior spine fusion (PSF) indication rates, preventing other conservative treatment and fusionless techniques to be indicated. Materials and Methods:

Prospective Cohort study. All IS patients scheduled for surgery between Apr 2019-Sept 2021 were recruited. The patients were divided into 5 cohorts of 6-months duration, 2 periods before the 1st COVID-19 wave, 1 period during and 2 periods afterwards. In each cohort, patients were divided in 3: those who were scheduled for PSF at 1st visit, those booked for Vertebral Body Tethering (VBT) at 1st visit, and those scheduled for surgery but who failed brace treatment. Chi2 and ANOVA tests were used for comparison.

Results:

173 patients were analyzed. 33 patients (13.1 y.o. \pm 3) were scheduled between Apr-Sept 2019; 38 (13.1 y.o. \pm 2) between Oct 2019-Mar 2020; 31 (13.4y.o. \pm 3) between Apr-Sept 2020; 30 (14.3 y.o. \pm 2) between Sept 2020-Mar 2021; and 41 patients (13.8 y.o. \pm 2) between Apr-Sept 2021. Non-statistically significant differences were found between periods before, during or after the COVID-19 1st wave regarding patients' age, gender and Risser grade. Average Cobb angles of patients at their 1st visit after the beginning of the COVID-19 pandemic were significantly higher than those before COVID-19 (52.2 \pm 7 $^\circ$ and 56.6 \pm 13 $^\circ$ vs 47.8 \pm 12 $^\circ$ and 45.2 \pm 13 $^\circ$; p=0.0001). More patients were booked for PSF (p<0.0000) through the 5 evaluated periods, while the indication of VBT in patients previously braced progressively decreased (Fig).

Conclusion:

Patients presented at the scoliosis clinic for the 1st time after the 1st COVID-19 wave with significantly larger Cobb angles, leading to an increased proportion of PSF, as the window for bracing or VBT was missed due to a delayed consultation.

Graphic representation of the tendency towards an increasing posterior fusion indication rate and decreasing indication of fusionless techniques (Brace and Vertebral Body Tethering – VBT).

