

Abstract citation ID: bvac150.1305

Pediatric Endocrinology

PMON331

The Natural History of Pituitary Cysts in Patients with Growth Hormone Deficiency and Idiopathic Short Stature

Matthew Krasnow, N/A, Liam McGuirk, N/A, Nicholas Krasnow, BA, Tara Patale, N/A, Sarah Manely, MS, Emily Sayegh, BS, Benjamin Epstein, N/A, Michael Tenner, MD, Shilpa Mehta, MD, Javin Schefflein, MD, Hasit Mehta, MD, and Richard Noto, MD

Background: Pituitary cysts may be implicated in short stature and affect growth hormone secretion. The natural history of cysts is not known in patients with GHD and ISS.

Objective: To characterize the progression of cyst volume (CV) and percentage of the gland occupied by the cyst (POGO) over time in GHD and ISS patients.

Subjects and Methods: A pediatric health system's database was queried for patients diagnosed with short stature and a cyst with at least one follow up MRI between 2007-21. Data up to 7 years after first follow up was included in this study. The mean and median follow up time were 1.32 ± 1.24 and 1.00. Cysts with a $POGO \leq 15\%$ were considered small, while a $POGO > 15\%$ were considered large.

Results: The mean and median $\% \Delta CV$ for all patients for all their follow up MRIs were $38.27\% \pm 179.14$ and 0%. The mean and median $\% \Delta POGO$ for all patients were $38.32\% \pm 219.85$ and -5.79% . The mean and median $\% \Delta CV$ for patients with a small cyst (SC) (n=34) were $61.49\% \pm 215.60$ and 0%. The mean and median $\% \Delta POGO$ for patients with a SC were $61.62\% \pm 267.25$ and -2.89% . The mean and median $\% \Delta CV$ for patients with a large cyst (LC) (n=14) were $-0.4\% \pm 79.25$ and 0%. The mean and median $\% \Delta POGO$ for patients with a LC were $-1.08\% \pm 90.50$ and -15.67% . 5 of the 35 (14.3%) SCs grew into LCs and stayed large while 6 of the 14 LCs shrunk into SCs. 4 cysts fluctuated between large and small: 3 started large and 1 started small. CV of patients with LCs has a significant negative correlation with time (-0.37 , $p=0.01$). The slope of the regression line is -0.01 mm³/month. The CV of patients with SCs does not show any change in time (-0.02 , $p=0.84$). There is no significant difference in POGO ($p=0.86$) or in CV ($p=0.96$) in GHD and ISS patients. In GHD and ISS patients, the difference in POGO is different in each group at each MRI date ($p=0.02$), but not in CV ($p=0.38$). GHD patients had an average $\Delta POGO$ of -1.05 , while ISS patients had an average $\Delta POGO$ of 1.26 .

Conclusion: POGO can change greatly over time. LCs tend to take up less of the gland over time. SCs tend not to change significantly over time, but a minority can still enlarge and need to be monitored. So far, there have been no significant clinical consequences related to these cysts.

Presentation: Monday, June 13, 2022 12:30 p.m. - 2:30 p.m.