Telemedicine (TM) has been a rapidly growing method of providing health care in different medical settings. Using technology to provide healthcare at a distance can be very helpful in improving access to health care in rural areas, providing immediate medical care when needed and reducing the cost of delivering medical care. Telemedicine patients often report positive experiences, given the speed of access, time saved, and the ability to stay in contact with healthcare providers. These virtual visits may help improve compliance with follow-up consultations by reducing the barriers of distance and transportation.

Telemedicine may also be used in providing service coverage when the medical provider becomes suddenly unavailable due to any kind of emergency (medical, social).

We present our experience in using TM as a tool for provider coverage in an immediate need situation as an alternative to rescheduling patent appointments.

We evaluated families’ choice in accepting a TM visit in a pediatric endocrinology clinic as an alternative to rescheduling appointments with the provider who suddenly became unavailable due to a medical emergency. The families were educated about the TM visit and were given the option to participate. The TM visits were conducted between two medical practices. Fourteen families were offered a TM visit when their physician was not available to conduct the visit. Six families (42%) agreed to participate in the TM visits, four families (66%) showed up. All cases of TM visits were follow up visits to review the medical condition, growth parameters, laboratory test results and discuss the management plan.

Satisfaction rating regarding the TM visit was obtained at the end of the visit, this TM visit was the first experience for all families, all of the participating families (100%) expressed satisfaction with the visit and stated that they would participate in TM visits in the future, if offered.

Families who declined the TM visit were rescheduled for traditional physician visits with the same provider or another provider within the same group.

Telemedicine can offer a fast and practical solution to provide coverage for physicians when there is a sudden immediate need. Rescheduling may not be well received from some patients so having the TM option is a futuristic way of covering health care delivery. Patients should be informed about the TM visit structure prior to their participation. Conducting TM visit when patients are at home may increase acceptance and participation.

Laboratory testing showed very elevated levels of both total and free testosterone (above 1500 ng/dL; 52 nmol/L) (402.5 pg/mL), respectively LH and FSH levels were pre-pubertal, 17-hydroxyprogesterone, DHEA, ACTH, cortisol, anti-mullerian hormone (AMH), and tumor markers (HCG, AFP) levels were normal.

Karyotype was 46 XX with FISH negative for SRY. Pelvic MRI showed a uterus with no pelvic masses.

When asked about possible exposure to hormones, the step-grandfather, aged 52 years, stated that he was on testosterone creams and that he was probably accidentally exposed her by holding her after rubbing the cream on his shoulder. Education as to how to avoid exposure was provided. Testosterone levels dropped to 158 ng/dL (5.4 nmol/L) by 3 months after the first visit but went up few months later to 975 ng/dL (33.8 nmol/L) with growth acceleration, clitoral growth of 4.5 cm in length and labial fusion, muscular appearance and acne.

At this time, she was hospitalized for 6 weeks and Children’s Protective Services were contacted. The step grandfather was not allowed to see her.

The testosterone dropped to a normal level of 3.8 ng/dL (0.13 nmol/L). The child was later adopted by extended family members.

The child’s testosterone level remained undetectable after discharge but her voice remained very deep. She went through clitoroplasty. Her clitoral size was reduced surgically to 2.5 cm length. Her acne has resolved and her mood was pleasant.

Law enforcement investigation of the step-grandfather revealed several containers of testosterone products in the home, as well as pornography and multiple used condoms.

He was arrested and convicted of committing serious bodily injury to a child, and was sentenced to 20 years in prison.

Discussion Virilization of pre-pubertal girls should prompt a detailed medical work up to rule out a virilization form of Congenital Adrenal Hyperplasia (CAH) or androgen producing tumors. If medical pathologies are ruled out, environmental exposure to testosterone should be suspected.

While all of the reported pediatric virilization cases due to hormonal exposure were accidental, this is case is the first report of intentional and criminal exposure.