

## 15. The Association of Polycystic Ovarian Syndrome and Adnexal Pathologies in Adolescents

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**Background:** Polycystic ovarian syndrome (PCOS) and mature cystic teratomas are among the most common conditions affecting ovaries in young adults, but their association has not been studied to date. The presence of functional endocrine tissue within teratomas raises a question of causality for hyperandrogenism in patients with both teratomas and PCOS. We present a novel study demonstrating an association between PCOS and adnexal pathologies in adolescent girls.

**Methods:** This IRB-approved retrospective case-control study included females ages 12–21 years seen at the Adolescent Gynecology & Endocrinology Clinic (AGEC) at a tertiary children's hospital between 2014–2022. The study group was defined as at risk for PCOS if subjects met at least two modified Rotterdam criteria and had transabdominal pelvic ultrasound revealing adnexal pathology. The control group subjects were evaluated for pelvic pain in the absence of gynecological or hormonal disorders and were diagnosed with an adnexal pathology. Exclusion criteria was menstrual age less than two years. Ultrasound imaging was re-interpreted by two radiologists. Statistical analysis was done using descriptive statistics and Chi-squared test.

**Results:** We included twenty-three subjects in the at risk for PCOS group and forty-four in the control group. Consistent with published data, the two groups had no difference in ovarian volume. There was an increased prevalence of teratomas (48% vs. 23%,  $p=0.035$ ) and an increased odds ratio for teratoma (OR 3.12, 95% CI 1.06–9.18) in the group at risk for PCOS (Table 1). There was a decreased prevalence of functional ovarian cysts in the at risk for PCOS group (26% vs. 52%,  $p=0.039$ ). One patient in the at risk for PCOS group had a Sertoli-Leydig cell tumor; there was no difference in the prevalence of cystadenomas or malignant tumors between the PCOS and control groups (Table 1). In the at risk for PCOS group, testosterone levels were reported for fourteen patients pre-intervention (mean  $67.9\pm 76.7$  ng/dL) and twelve post-intervention (mean  $40.5\pm 31.8$  ng/dL).

**Conclusions:** We demonstrated that adolescents at risk for PCOS are more likely to be diagnosed with a mature cystic teratoma compared to adolescents without PCOS. In addition, patients at risk for PCOS were less likely to have functional cysts compared to their non-PCOS counterparts which aligns with the state of chronic anovulation in PCOS. To allow a window of opportunity for preventive surgery that could minimize risk of torsion and malignancy, clinicians should consider a screening pelvic ultrasound for evaluation of teratoma in adolescents with or at risk for PCOS. Prospective studies are needed to further elucidate association between mature teratomas and PCOS.

Supporting Figures or Tables

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## 16. Validation of a New Instructional Video for Adolescent Self-Administration of Subcutaneous Depot-medroxyprogesterone

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**Background:** Approximately 15% of adolescents have used depot-medroxyprogesterone. Although traditionally administered in the clinical

space, it is effective and well tolerated when subcutaneously self-administered; however, the technique must be taught, and office visits may be a barrier to care. There are no currently available online instructional videos specific to both this age group and medication. We hypothesize that our peer-to-peer video lesson is easy to understand, effective as a stand-alone method for accurately teaching safe technique, and well received by adolescents, who will continue to self-administer the medication.

**Methods:** This is a prospective IRB approved clinical trial of subjects 21 years old and younger using depot-medroxyprogesterone. Patients from our pediatric gynecology and adolescent medicine clinics were enrolled, obtained the medication, then watched the 4 minute instructional video. Injections were self-administered under direct observation by a healthcare provider. The patient and healthcare provider were surveyed after the initial injection and 90 days later. Rate of successful self-injection at the first study visit was determined by collecting and correlating patient and healthcare provider survey responses. The follow-up survey enquired about medication continuation.

**Results:** Pilot data includes seven subjects, age range of 15–19 years. 6/7 felt that the video clearly explained all steps of self-injection. All subjects either self-injected successfully or performed all steps correctly but deferred inserting the needle into the skin. If a parent administered the shot, it was considered a successful self-injection; if the shot was administered by the healthcare provider it was considered unsuccessful. Of those who said they planned to continue self-administration, all were comfortable giving the shot unsupervised at home. Patient and provider responses correlated 100% on perception of successful injection, prediction of which subjects would likely continue the method, and which subjects did continue. All subjects who said they planned to continue self-administration gave themselves a second shot, and most repeatedly viewed the video.

**Conclusions:** Self-administration of subcutaneous depot-medroxyprogesterone is safe, confidential, and convenient for adolescents. This video enables teens to teach themselves, without a health care provider, how to successfully and consistently self-inject. Pilot data also suggests that teens choosing to self-inject subcutaneous depot-medroxyprogesterone will continue the method. The next step is to offer this video to a wider audience of motivated adolescents to learn and continue self-injection.

## 17. A retrospective review characterizing surgical and medical management of 10 patients with complex obstructive Müllerian anomalies

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**Background:** Müllerian anomalies can be obstructive or non-obstructive (32% vs 68% of Müllerian anomalies). If an obstructive Müllerian anomaly is not diagnosed prior to the onset of menarche, patients can present with severe pain requiring emergent care as a result of marked hematometocolpos. Management of these patients is focused on relieving the hematometocolpos, improving pain, and definitively relieving the obstructive process. There is a paucity of literature on the presentation and standard management of individuals with complex Müllerian obstruction. The aim of this study was to describe 10 patients with complex obstructive Müllerian anomalies who received definitive surgical management at a single tertiary center.

**Case:** Our cohort consisted of ten females presenting at 14 years and 6 months old ( $\pm 1.20$ ), of which one patient had a known complex obstructive anomaly while nine were diagnosed at time of presentation for acute symptoms. In this cohort, 70% were diagnosed in an emergency department setting while 30% were diagnosed in an outpatient ambulatory setting. Notably, 30% of our cohort had an additional diagnosis of renal anomaly. Of the girls without a known obstruction, the chief complaint was abdominal pain (89%), with only one patient presenting primarily for amenorrhea. The most common imaging modality to work-up this condi-