22. Adnexal Torsion and Syndrome of Inappropriate Antidiuretic Hormone – Coincidental or Causal? A Case Report of an Adolescent with Torsion Presenting with Severe Hyponatremia

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Background: Adnexal torsion is the sixth most common pediatric surgical emergency, and one that requires high suspicion and prompt surgical intervention in order to preserve adnexal function. Patients presenting with one or more additional acute medical concerns during an episode of torsion must be managed carefully and effectively to ensure both safe perioperative care and expeditious surgical management.
Case: In this report we review a case of adnexal torsion in a seventeen-year-old female who was found incidentally to have severe hyponatremia, with serum sodium concentration 117 mEq/L. Further workup was initiated which demonstrated low serum osmolality and high urine osmolality, consistent with syndrome of inappropriate antidiuretic hormone (SIADH). Per our review of the literature, this represents the first case report of SIADH in the setting of adnexal torsion. Potential causes of and factors contributing to her hyponatremia were considered including SSRI use, pain, and possible relapse of prior anorexia nervosa. In this case, optimizing surgical management was uniquely challenging due to the need to balance preoperative normalization of sodium to minimize intraoperative risk with the necessity of urgent surgical detorsion to prevent lost or compromised fertility in a young patient. Although serum sodium improved with medical management, it only returned to normal range after the patient underwent surgery to de-torse her adnexa and relieve her pain.
Comments: Through this case we review the presentation, evaluation, and management of ovarian torsion, a common but easily missed diagnosis in pediatric and adolescent patients with abdominal pain. Additionally, we discuss SIADH and its pathophysiology, symptoms, diagnosis, and potential sequelae. Further discussion includes the role of pain and surgery in SIADH, adnexal masses known to cause SIADH, medications commonly implicated in SIADH, and an overview of the types of hyponatremia commonly seen in patients with restrictive diets or anorexia nervosa. Although to our knowledge this represents the first reported case of SIADH in the setting of adnexal torsion, the linkage between pain afferents and SIADH has been documented, suggesting that patients with severe pain from torsion may be at risk for hyponatremia via this mechanism. As such, providers should be aware of the management of SIADH as well as potential perioperative risks. This case, along with our review of the literature, supports surgical intervention as frequently integral to definitive correction of hyponatremia in patients with adnexal masses resulting in SIADH.

Supporting Figures or Tables
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23. Transverse Vaginal Septa: A Survey of Current Provider Practices

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Background: Transverse vaginal septa (TVS) are rare congenital abnormalities of the vagina that are typically managed by experienced Pediatric & Adolescent Gynecologists (PAG). Debate often exists on the preoperative management, timing of surgery, surgical management, and postoperative care for these patients. Given the rarity of the condition, the published literature on the surgical management of TVS is scarce and poorly described, which is not ideal for a condition that carries high levels of surgical risk. This exploratory cross-sectional study served to add to the limited existing literature and create consensus among NASPAG providers on how to best care for these patients. We hypothesize that providers have varied preoperative and postoperative practices, but that most providers are delaying surgery until the patient is older and can fully participate in their care.
Methods: An electronic survey was distributed through REDCap to all members of the NASPAG listserv on two occasions. The survey consisted of up to 47 questions, with the number of questions for a given individual determined by their level of involvement in the care of patients with TVS. Questions explored the full breadth of care, including practices at the time of diagnosis, decision making regarding timing of surgery, use of menstrual suppression, and perioperative management. Ethics approval was obtained.
Results: Forty-three members of NASPAG responded to the survey. The majority were trained in PAG (90.6%) and felt comfortable with the surgical management of TVS (90.6%). There was heterogeneity with respect to whether surgeons would operate at the time of diagnosis, with 11.6% of respondents always operating, 20.9% never operating, and 66.4% operating in select circumstances. A variety of forms of menstrual suppression are used, with only 15.7% of respondents using a GnRH agonist despite it being one of the more effective methods of menstrual suppression. With respect to dilatation, 64% of providers consider pre-operative vaginal dilatation while 95% of providers consider using a post-operative vaginal stent or dilatation. Pre-operative antibiotics are not routine, with only 56.4% of surgeons using antibiotics at the time of surgery with cefazolin as the antibiotic of choice.
Conclusions: Despite the close-knit nature of the PAG community, there is remarkable heterogeneity in the management of patients with TVS. Our study highlighted the significant variation in the timing of surgery as well as the preoperative, intraoperative, and postoperative care. Further research into the influence of some of these factors on postoperative complications is paramount to improve the quality of care for patients with TVS and standardize practice amongst PAG providers.

24. Postpartum Diagnosis and Treatment of a Prolapsed Longitudinal Vaginal Septum in a Didelphys Uterus

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Background: Incomplete fusion or failure of canalization of the Mullerian ducts can yield a longitudinal vaginal septum (LVS). Mullerian duct anomalies occur with an incidence of 0.001- 10%. [3] [8] Clinically, these patients can present with dyspareunia, difficulty with tampon insertion, hygiene issues, dysmenorrhea, amenorrhea, hematometra, recurrent pregnancy loss, [8] infertility, primary amenorrhea, dystocia during vaginal delivery (protracted first stage of labor or arrest of dilation) [5], or as in the case of our patient, an asymptomatic incidental finding on imaging or clinical exam The purpose of this report is to discuss childbirth outcomes, trauma, and dyspareunia with longitudinal vaginal septum. This case is important because of its unique clinical presentation and the consideration to change management of LVS due to potential increased morbidity of maternal trauma and childbirth outcomes.
Case: A 25 year old G3P3003 presents with uterine didelphys, recently postpartum with dyspareunia due to a prolapsed vaginal septum. The patient is Tanner stage 5, with a BMI of 22 kg/m2 and is not currently sexually active. Diagnostic work up included, a transvaginal ultrasound which revealed unremarkable anatomy. Follow up MRI, reported an anteverted, septate uterus 6.1cm x 5.8cm x 2.8cm with a complete septum extending at least to the external cervical os. Adnexa were unremarkable and a 2.1cm x 1.4cm intramural fibroid was noted. Management of patient's condition was a surgical resection of the longitudinal septum. There were no postoperative complications and her postoperative appointment exam demonstrated granulation tissue at both the 7 and 12 O'clock position that

bled with manipulation. The patient met all postoperative milestones and recovered appropriately.

Comments: Based on literature review, there are mixed recommendations on prophylactic septoplasty; however, in this patient's case, septal prolapse and significant dyspareunia could have been avoided. These outcomes should be taken into clinical consideration when a patient presents with a longitudinal vaginal septum during routine obstetric and/or gynecological care.

Supporting Figures or Tables

25. Predictors of Ovarian Preservation after Ovarian Torsion: A Retrospective Chart Review

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Background: Ovarian torsion is a gynecologic emergency that requires surgical intervention to avoid functional loss of the ovary. Our objective was to determine predictors of ovarian preservation in the setting of torsion, primarily time from initial presentation to surgery.

Methods: We conducted a retrospective cohort study of women aged 12-40 who presented to the Emergency Department (ED) at a single institution between 2008 and 2021 and had surgical confirmation of torsion. Cases were identified using diagnosis codes for ovarian torsion, and we performed chart review to confirm inclusion criteria. We compared ovarian preservation by time to surgery after ED presentation. Covariates included age, parity, sonographic doppler flow, presence of ovarian mass, intraoperative attempt at detorsion, intraoperative concern for necrosis, and night or weekend presentation. We considered the potential effect of COVID-19 pandemic on time to surgery. We assessed predictive factors for ovarian preservation based on preoperative sonographic findings and patient characteristics using multivariable logistic regression. Institutional IRB approved a waiver of consent.

Results: We identified 60 surgical cases of confirmed ovarian torsion, of which 25 underwent oophorectomy (42%). The median time from initial presentation in ED to surgery was 8.6 hours (IQR: 5.9-12.9; 8.3 hours in preserved versus 8.7 in removed; p=0.68). When time to surgery was < 4 hours (n=6), the ovary was preserved in 83% of cases, compared to 56% when time to surgery was ≥4 hours (n=54; p=0.39). When time to surgery was < 8 hours (n=28), 61% had ovarian preservation compared to 56% at ≥8 hours (n=32; p=0.73) (Figure). The COVID-19 pandemic was not associated with a longer time to surgery (n=7). Ovarian preservation was significantly more likely with present doppler flow on sonographic exam (60% vs 27%; p=0.02). Preservation was less likely with necrosis suspected intraoperatively (20% vs 84%; p< 0.01). Detorsion was attempted in 64% of cases, resulting in preservation of 35% of necrotic-appearing ovaries. 76% of cases underwent oophorectomy based on intraoperative concern for necrosis; however, only 48% of ovarian specimens had necrosis confirmed on pathology. Age, parity and night or weekend ED admission were not associated with ovarian preservation.

Conclusions: Predictors with the greatest likelihood of ovarian preservation after torsion include surgical goal time of < 4 hours after ED presentation, present doppler flow on sonographic exam, and attempt at detorsion intraoperatively despite necrotic appearance. Intraoperative methods to confirm ovarian viability would reassure surgeons. The surgical decision for oophorectomy may be based on factors unrelated to functional loss of the ovary.

Supporting Figures or Tables
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26. Assessment of BMI and Other Cardiometabolic Parameters in Turner Syndrome

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Background: Turner Syndrome (TS) is a genetic disorder often associated with metabolic syndrome including type 2 diabetes, dyslipidemia, and insulin resistance manifesting in the early years of life. It is well known that young girls and adults with TS have more cardiometabolic risk factors than age-matched peers without TS. Our objective was to describe cardiometabolic parameters in a late adolescent/young adult cohort of individuals with TS.

Case: Twelve late adolescent and young adult patients with TS, ranging in age from 19-26 years, seen at the NIH Turner Syndrome clinic who provided informed consent for research were included in this case series. Karyotype, hormone replacement therapy (HRT), age at documented diagnosis of primary ovarian insufficiency (POI), basic vitals, and cardiometabolic parameters were collected per protocol, as shown in Table 1. BMI values were classified as healthy weight, overweight, or obese. Blood pressure values were classified as normal, elevated, stage I hypertension, and stage II hypertension. LDL cholesterol values were classified as optimal, near or above optimal, borderline high, high, and very high. Of the 12 patients in this series, 5 patients (42%) were healthy weight, 1 patient (8%) was overweight, and 6 patients (50%) were obese. Elevated total cholesterol levels were seen in 3 out of 5 patients with a healthy BMI, and 2 of these 3 patients had high risk LDL values . Of the remaining 7 overweight