30. Vaginal Epithelial Disruption with Bleomycin Instillation: A New Murine Model for Vaginal Fibrosis

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Background: Adolescents who undergo vaginal reconstruction are often left with debilitating vaginal fibrosis. There are limited prevention methods (poorly fitting stents, estrogen therapy) and treatment options (vaginal dilators, estrogen or hyaluronan (HA) treatment), both of which have poor patient compliance. Our goal is to create a model for vaginal fibrosis, to aid in the development of new prevention and treatment options. We have previously shown a surgical murine model that heals regeneratively, and we hypothesize that by combining epithelial disruption and bleomycin instillation, similar to models of laryngotracheal stenosis, we can establish vaginal fibrosis.
Methods: Six to seven week old C57BL/6J mice underwent general anesthesia, and control mice had normal saline instilled intravaginally (NS). For experimental animals, a wire brush was rotated 6 times intravaginally followed by 2.5U/kg bleomycin instillation (ED/B). This was repeated 5 times over ten days. Vaginal tissue was harvested 1 day, 3 weeks, or 6 weeks after the last instillation. Tissue was analyzed using trichrome staining, immunohistochemistry (IHC), gene array, qPCR, and a hydroxyproline assay. Average size of HA and size distribution was also determined. Statistical significance was determined by t-test between NS and ED/B at each time point.
Results: We found increased pro-fibrotic markers and decreased anti-fibrotic markers 3 weeks after the last ED/B exposure compared to NS controls. This was confirmed by qPCR, which showed increased expression of Acta2, Col1a1, and Col3 3 weeks after ED/B exposure compared to NS, with no differences observed at 1 day or 6 weeks. Trichrome staining also showed no difference in total collagen between NS and ED/B at 1 day or 6 weeks, however at 3 weeks, there was increased collagen in ED/B compared to NS. Hydroxyproline showed similar trends. Using IHC, we found a decrease in total number of fibroblasts and macrophages 3 weeks after ED/B compared to NS, with no differences found at 1 day or 6 weeks between groups. Lastly, we found an increase in average size of HA and the size distribution of HA 3 weeks after ED/B compared to NS, again with no differences found at 1 day and 6 weeks after exposure.
Conclusions: Using epithelial disruption combined with bleomycin instillation, we established vaginal fibrosis, shown by increased collagen content, 3 weeks after the last exposure. However, at 1 day post exposure, fibrosis was not yet established; and by 6 weeks, the vaginal tissue had returned to baseline. We can utilize this model and these time points to not only study the mechanisms of fibrosis but also prevention and treatment options.

31. A Case for Interdisciplinary Gender Affirming Care

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Background: An adolescent with protracted trauma history and gender dysphoria in the setting of reported intersex diagnosis at birth (assigned female) and two-spirit gender identity presented to the pediatric gender clinic for initial consult. Familial goal was immediate gender affirming hormonal therapy with testosterone. Review of literature done in caring for this patient presented multiple holes in the in current pediatric gender affirming literature.
Case: Social work (SW) through a local community partner was involved prior to initial visit and identified complex psychosocial issues: suicidal ideation, potential mental health needs of mother, reported historical abuse by father, gender-identity related violence by peers, and medical distrust. Medical history, per patient and mother, was notable for ambiguous genitalia at birth with mother's decision to assign infant as female. History during adolescence was notable for reported clitoromegaly, hirsutism, deepening of voice, and secondary amenorrhea of 5 years. Per family, no workup had been done to date and no previous medical records were available. The patient did not assent to genital exam, however, the patient self-identified a Ferriman-Gallwey score of 21, chest SMR V, and genitalia matching a clitorophallus via images. Subsequent medical work-up included pelvic ultrasound with normal uterus, ovaries. No hormonal etiology for changes were found, including normal DHEA-S, Prolactin, Testosterone (free + total), estrogen, 17-hydroxypregnenolone, and androstenedione. Given normal medical workup and psychosocial support with SW, testosterone was initiated in accordance with patient and family wishes
Comments: There is a dearth of literature for patients who are intersex and identify as two-spirit. Collaborative SW support and medical care was key. SW was able to identify complex concerns and facilitate ongoing care: in particular, SW provided support surrounding the need for further medical workup prior to initiation of HRT, which was instrumental in familial engagement. Continued conversation identified cultural support needs related to Asian American and Tsalagi ancestry and two-spirit identity. SW was able to contextualize school advocacy support in the context of gender identity and historical persecution of Native American Students. Family was connected to a two-spirit society for additional support. This case highlights the need for more robust pediatric gender affirming literature and widespread use of multidisciplinary teams, particularly in providing culturally sensitive care to gender diverse youth.

32. The XY Female Siblings: A Case Report On Breaking Bad News

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Background: A crucial part of patient management is effective delivery of unfavorable information, in a manner that will not affect future engagement with them, their coping strategies and their compliance to treatment. We present a case report detailing how to communicate a life-changing diagnosis to patients.
Case: Two siblings, aged 20 and 18, presented with primary amenorrhea to our Pediatric and Adolescent Gynecology Unit. They were female phenotype with 46XY karyotype. The elder sister had bilateral herniorrhaphy at 14 years with Breast Tanner 4, Pubic Hair Tanner 2, and normal female external genitalia. The younger one had left herniorrhaphy at 12 years, with Breast Tanner 3, Pubic Hair Tanner 1 and normal female external genitalia. They were accompanied by their mother unaware of their diagnosis. Our senior most clinician reviewed their laboratory and imaging results and led the diagnosis disclosure of Complete Androgen Insensitivity Syndrome to the siblings and their mother. Her opening statement was, "We are all different." She then explained the five factors that contribute to gender and then described their diagnosis, what it meant and how it came about. Further, she discussed the cultural and religious implication and informed them of support groups available. Despite the comprehensive discussion and the opportunity to ask questions at any point, the patients seemed perturbed by the news and remained silent. The clinic visit was finalized by answering the concerns raised by their mother and scheduling a follow-up appointment to allow for further conversation and debriefing.
Comments: Bad news is information that has potential to negatively alter a patients view of their future. Both the process of breaking the news and the content have a profound effect on the patient therefore the delivery has to be well thought out. It is a critical advanced communication skill for clinicians. One can opt to use a non-structured approach,

like we did, or employ predefined communication strategies on breaking bad news. One example of these frameworks is the SPIKES protocol: an acronym that details consideration of the Setting, Perception, Invitation, Knowledge, Empathy and Summary. Such protocols have been cited to improve clinicians confidence in breaking bad news and improve patient involvement in the decision-making process. However, effective communication must allow for deviations from the sequence to allow patient expression of emotions, rather than a strict focus on the process of breaking bad news. In addition, breaking bad news should not be seen as a singular event. As seen in our case, the revelation of the diagnosis can 'numb' the patients and hence require follow-up sessions to debrief and chart a care plan.

33. Case Report: Unusual Etiology of Anterior Vaginal Mass

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Background: Benign vaginal masses are relatively uncommon in adults, with an estimated incidence of 1.6% in an adult urogynecologic surgical population, and the incidence in adolescents is unknown. The most common midline anterior vaginal wall mass is a urethral diverticulum, but the differential diagnosis of anterolateral wall masses is broad and includes cysts of embryonic origin (Mullerian cysts, Gartner's duct cysts), Skene's duct cysts, epithelial inclusion cysts, endometriosis, leiomyoma, fibroma, and lipoma. We present a case of anterior vaginal wall mass due to a previously unreported etiology.
Case: Our patient is a 17 year-old nonbinary person with a history of chronic pelvic pain. Surgical history includes cystoscopy with bilateral injection of Deflux in 2018 for vesicoureteral reflux (VUR). They presented for LNG-IUD insertion under sedation and examination revealed a firm, smooth 1 cm nodule palpable in the midline anterior vaginal wall which was unable to be visualized on speculum exam. The remainder of the pelvic exam was typical and pelvic ultrasound showed a typical uterine shape without evidence of pelvic mass. Given its location in the anterior vagina, initial suspicion was for urethral diverticulum, thus the patient was referred to urology for consultation. The patient has a history of chronic dysuria and perineal pain, but no typical urinary symptoms of urethral diverticulum. Urology performed cystoscopy and examination under anesthesia in coordination with gynecology, which revealed mound-like prominences of both ureteral orifices consistent with prior bilateral Deflux injection. Digital manipulation of the vaginal mass during cystoscopy correlated with movement of the mounds of Deflux material.
Comments: Benign vaginal masses are rare and poorly understood, especially in the adolescent population. A vaginal mass due to injection of Deflux material has not been previously reported. Injection of Deflux, a bulking agent composed of dextranomer microspheres suspended in hyaluronic acid, is an endoscopic method of correcting VUR. Compared to ureteral reimplantation, Deflux injection is safer and has few reported serious complications. Calcification of Deflux material can occur as early as 3 years following injection and may mimic a ureteral stone on imaging; there have otherwise been no reported long-term sequelae of calcification. The incidence of a palpable vaginal mass in patients with a history of Deflux injection may increase as this technique becomes more common and should be included in the differential diagnosis of vaginal mass in patients with a history of VUR.

Supporting Figures or Tables
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34. Atypical Presentation of Granulosa Cell Tumor in an Adolescent: A Case Report

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Background: Granulosa cell tumors are rare, accounting for approximately 1-2% of all ovarian tumors across age groups and 10-20% of ovarian tumors in the pediatric population. Both juvenile- and adult-type granulosa cell tumors typically induce a hyperestrogenic state that may present as precocious puberty in the prepubertal female or as abnormal uterine bleeding in the postpubertal female. These tumors also often secrete elevated levels of inhibin B, which can be used to aid in diagnosis and in following clinical response to treatment. Here, we report an unusual presentation of adult-type granulosa cell tumor in a 14-year-old female with hyperandrogenism and a mild but persistent elevation in alpha-fetoprotein (AFP). The objective is to review an atypical presentation of a granulosa cell tumor in an adolescent.
Case: A 14-year-old Caucasian female with a history of obesity, clinical hyperandrogenism, and secondary amenorrhea, presented with severe abdominal pain. She was found to have a $16 \times 13 \times 8$ cm right ovarian mass that was largely cystic but had subtle nodularity on imaging. Laboratory evaluation (Table 1) revealed a mild elevation of AFP (16 ng/mL) and marked elevations in free and total testosterone (33.6 pg/mL and 102.4 ng/dL, respectively). Inhibin B and estradiol levels were normal (61 pg/mL and 29.9 pg/mL, respectively). After multidisciplinary review by pediatric subspecialists including Gynecology, Oncology, Surgery and Radiology, as well as with shared decision making with the family, the patient underwent a diagnostic laparoscopy and exploratory laparotomy with right adnexal detorsion and right oophorectomy. Pelvic washings were negative for malignancy, and pathology evaluation of the ovary revealed an adult-type granulosa cell tumor. Review of intraoperative findings, pathology, and imaging resulted in a diagnosis of FIGO stage IA disease. Based on the diagnosis and disease stage, surveillance imaging alone is planned.
Comments: Despite negative classic tumor markers, the index of suspicion for malignancy should be high for any large ovarian mass >10 cm, even in an adolescent. Granulosa cells tumors often result in elevated estrogen levels; however, this case demonstrates that elevated androgen levels should not eliminate concern for a granulosa cell tumor. Similarly, tumor markers can be used to aid in diagnosis but should not be used to rule out malignancy, which can only be definitively diagnosed with histopathologic examination. These factors should be taken into account when planning surgical intervention.

Supporting Figures or Tables
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