Abstract:
Bladder tumor in pregnancy is a rare occurrence and many varied pathological diagnoses have been reported on histopathological evaluation of these tumors. We report here a bladder tumor presenting during pregnancy which on evaluation proved to be an unusual manifestation of endometriosis.

Keyword: Pregnancy, Bladder tumor, Endometriosis

Cystoscopic appearance of bladder tumor Solid appearing lesion on TURT

Introduction:
Tumors in pregnancy are a rare occurrence,
moreover a bladder tumor is still rarer in the third decade of life(1). Bladder tumors reported in pregnancy include transitional cell carcinoma, squamous cell carcinoma, adenocarcinoma(2)(3), phaeochromocytoma(4)(5), ganglioneurofibroma partim plexiforme (6), leiomyoma(7)(8) and bladder hemangioma(9)(10). Some of them were symptomatic while others were detected incidentally. Histopathology is required in almost all of them to establish the final diagnosis and determine the available treatment options. We present here a rare case of bladder endometriosis presenting as a tumor during pregnancy.

**Case report:**
A 23 yr old female had a bladder lesion detected on antenatal ultrasonography in the first trimester. The antenatal ultrasound performed at two weeks of gestation showed a bladder mass approximately measuring 4x1.34x2.46 cm in the left lateral wall. She had no complaints of hematuria or lower urinary tract symptoms and had no bowel complaints. Her personal history revealed a normal menstrual history. Her first delivery 5 years earlier was a Caesarian section. On examination there was a well healed Pfannensteil scar of the previous surgery. Per vaginal examination was normal and on bimanual examination, the uterus was of the size of 13 weeks. Repeat ultrasound at 13 weeks of gestation revealed a 4.2x3.7 cm, irregular, vascular, heterogenous, polypoidal mass at the bladder base and left lateral wall, in continuation with the cervix. Flexible cystoscopy done at this time showed a nodular mass lesion in bladder wall, with normal bladder mucosa. To further characterize the lesion and its extent, Magnetic Resonance Imaging was done. T2 weighted images revealed a hyperintense, polypoidal lesion protruding into the bladder lumen from the left lateral wall. The lesion also had an exophytic component, extending to the perivesical fat and abutting the wall of the lower uterine segment. No significant lymph nodal enlargement or distal metastases were seen. A single fetus was noted in the uterine cavity. Preoperative imaging raised the possibility of a neoplastic etiology in view of its increased vascularity and transurethral resection of the lesion was performed after adequate counselling. Her post operative course was uneventful. The histopathological report revealed urothelium lined fragments with endometrial glands containing extensive decidual changes. There was no evidence of malignancy.

**Discussion:**
Symptomatic presentation of bladder masses in pregnancy may include hematuria (intermittent or cyclical) or vaginal bleed, lower abdominal pain, difficulty in voiding, micturational syncope or difficulty in labour due to mass effect. At times these symptoms can indicate the pathological diagnosis, e.g. micturational syncope along with palpitation, hypertension or sudden hypertensive crisis during delivery points towards bladder phaeochromoytoma; intermittent haematuria, vaginal bleed and storage lower tract symptoms may indicate bladder malignancy (transitional cell, squamous cell or adenocarcinoma)(3); cyclical hematuria, lower abdominal pain, dyspareunia or painful defecation may point to endometriosis(11). At other times the tumor may be incidentally detected. Imaging and cystoscopic
visualization can help to an extent in identifying the underlying pathology e.g. leiomyoma on MRI has intermediate signal intensity on T1 weighted images and low signal intensity on T2 weighted images. However MRI fails to differentiate between leiomyoma and leiomyosarcoma. On the other hand, endometriosis on MRI appears hypointense on T2 weighted images which is similar in signal to the normal bladder wall, while on T1 it can have hyperintense areas with post contrast enhancement which may be suggestive of haemorrhages. Despite these advances in imaging, it is still difficult to differentiate it from the unusual primary bladder neoplasm or metastatic lesion from another abdominal primary. Due to the diverse nature of possible pathologies reported for bladder masses and the rarity of their occurrence, it is difficult to arrive at a management decision without biopsy. Cold cup biopsy can be safely taken and gives valuable information in case of mucosal lesions. When the lesion is submucosal, options are transurethral resection of the tumor or percutaneous trucut biopsy. Transurethral resection of tumor has been reported to be safe in pregnancy and can serve as treatment in certain situations. Percutaneous biopsy has also been described in literature to differentiate a suspected bladder leiomyoma from leiomyosarcoma. However, needle biopsy may injure the bowel, is difficult to perform in a vascular lesion and may not be representative. Endometriosis presenting as a bladder tumor during pregnancy is a rare event, with only 4 case reports having been published to date in medical literature. It is rarely suspected or diagnosed preoperatively as less than 1% of patients with endometriosis present with a vesical lesion. In the index case there was no previous history of diagnosed endometriosis. Moreover, endometrial lesions are known to regress during pregnancy. This lesion was stable over the three and half months of follow up during pregnancy. Although diagnostic laparoscopy is the gold standard for diagnosing concomitant lesions of endometriosis, MRI did not document any gross lesion in the ovary or the peritoneal cavity in our patient. On histopathology, endometriosis is diagnosed by presence of endometrial glands and stroma. During pregnancy the stroma undergoes decidual changes. A rare case of completed decidual changes with absence of endometrial glands has been reported in literature. Decidual changes can cause growth of the tumor during pregnancy which is contrary to the norm. These decidual changes also make radiological distinction from malignant transformation difficult. In our case, no further treatment was pursued for the lesion as it was benign and asymptomatic. Zavadil et al have described a patient undergoing partial cystectomy during the second trimester with the patient subsequently successfully completing the pregnancy. However, such major open surgery for a benign lesion is definitely overkill, if diagnosis can be confirmed with a transurethral biopsy as in our case. Foetal evaluation was done post operatively and was found to be normal.
evaluation was done post operatively and was found to be normal. The patient is currently under follow up with us for the remainder of her antenatal period. Incidentally detected solid bladder lesions should be biopsied to make a definitive diagnosis. Benign tumors can be safely observed and pregnancy can be allowed to continue.

References:


