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Uterine Incarceration and Acute Urinary Retention: An Overlooked Diagnosis

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Abstract. Incarceration of a gravid uterus is a rare cause of urinary retention in pregnancy; with only 22 cases reported in the literature since 1877. Reported is a case of a 24 year old primigravida presented at King Abdulaziz University Hospital, Jeddah, Saudi Arabia; with her second attack of acute urinary retention at 14 weeks of gestation over a 24 hour period. Successful reduction of her incarcerated uterus was achieved manually. It was carried out in the emergency room by a senior obstetrician with minimal discomfort and no complications. The rest of her pregnancy was uneventful and throughout, she had no further recurrence. She had an uncomplicated vaginal delivery at term. Unexplained recurrent urine retention in pregnancy should draw the attention to uterine incarceration. Awareness to the emergency room staff and obstetricians is primal for early diagnoses. Early correction is considered easier and prevents potential serious maternal and fetal complications. In addition, it permits the patient to have a chance of a vaginal delivery. There is no standard protocol for the management of these cases, and information is based on literature review and case reports, therefore; reporting is encouraged.

Keywords: Urinary retention, Uterine incarceration, Gravid uterus.

Introduction

Uterine incarceration is a rare entity presented early in the second trimester. Because it mimics a variety of different conditions, it can

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easily be missed[1,2]. However, its negligence can be responsible for serious maternal and fetal complications. Early recognition and correction is usually simple, non-surgical, and it can be carried out in the emergency room or outpatient setting when presented early. This could allow the remainder of the pregnancy to continue smoothly[3]. Reported is a case that presented at 14 weeks with a second attack of acute urinary retention. Awareness to emergency room and obstetrics staff is of prime importance.

Case Report

A 24-year-old primigravida, with spontaneous pregnancy and no prior issues, presented at 14 weeks of gestation to our hospital complaining of inability to void for the last 24 hr. This was the second attack over the last 2 days. She sought medical help for the first attack and was treated by bladder evacuation *via* an in-and-out urinary catheterization. An ultrasound assessment was done reporting a single, intrauterine, viable fetus with appropriate dates and normal pelvic structures. Hence, she was discharged home. However, she presented to our hospital 24 hr later with the same complaint with no other symptoms. On examination, she was afebrile and hemodynamically stable. Abdomen was soft and lax with suprapubic fullness. A urinary catheter was inserted and 500 milliliters of urine was evacuated. A pelvic examination was done; which revealed fullness in the posterior fornix and anterior displacement of the cervix. A diagnosis of uterine incarceration was clinically made. The patient was placed in knee-chest prone 'Sims' position and the uterine fundus were replaced manually with minimal discomfort to the patient. Fetal viability was confirmed, then the urinary catheter was removed and she was discharged home. She was seen and re-examined 2 weeks later in the outpatient clinic and everything was normal. An ultrasound was done which showed a normal anteverted uterus with a single, viable, intrauterine fetus, which was appropriate for gestational age. She had routine visits with a smooth uncomplicated antenatal course without any recurrence. At 38 weeks; she presented in labor and had a normal vaginal delivery of an alive baby boy weighing approximately 3.2 kilograms, with an APGAR score of 9 at 1 minute, and 10 at 5 minutes. Her postpartum period was uneventful.

Discussion

Urinary retention is an uncommon complaint in women and even more, during pregnancy. The usual pathophysiology is a mechanical occlusion of the internal urethral orifice by pressure on the bladder portion; which is superior to the urethra.

Its presence should suggest an underlying pelvic pathology, which could be serious. Therefore, in a pregnant patient presenting with urinary retention, a thorough assessment including pelvic examination and radiological imaging should be carried out. Incarceration of a gravid uterus is a rare cause of urinary retention in pregnancy; with only 22 cases reported in the literature since 1877[4]. It is postulated that the anterior displacement of the cervix leads to compression of the urethra and thus, a variety of urinary symptoms[5].

Uncomplicated retroversion of the uterus is present in about 15% of pregnancies during the first trimester. It usually undergoes spontaneous correction by the beginning of the second trimester as the uterus ascends into the abdominal cavity. If it gets wedged into the hollow of the sacrum, it becomes incarcerated.

Incarceration of the gravid uterus is a rare entity, which occurs usually between 14 – 16 weeks of gestation. Risk factors include posterior-wall fibroids, adhesions, endometriosis, ovarian masses, uterine anomalies, or a deep sacral concavity with an overlying promontory. In this case, the patient did not have any of these predisposing factors[5].

Many methods can be used for uterine replacement, these include conservative methods *via* passive uterine reduction[6], or manual replacement with or without ultrasound guidance[7], or by more invasive methods such as colonoscopy assisted replacement[8], and finally surgical methods that include laparoscopy or laparotomy[5]. There is no standard protocol to which method should be tried first; however, we advocate non-surgical and simple methods before embarking on more invasive approaches.

Failure of reduction may lead to fetal wastage and preterm labor. In addition, with advancing pregnancy, the incarcerated uterus continues to enlarge leading to anterior uterine wall sacculation, which predisposes the patient to uterine or cervical rupture. In addition, if persists, delivery is achieved by a challenging cesarean section near term[9]. In

uncomplicated cases like this, uterine replacement in the emergency room or outpatient setting is suggested with close follow up afterwards. As the above patient was Rh positive, there was no need of anti-D administration. However, it is suggested in patients who are Rh negative that they receive anti-D even after non-surgical reduction techniques.

Patients with uterine incarceration may present with a variety of different and sometimes vague clinical symptoms, which may be confusing. However, the presence of urinary retention should flag its possibility and be part of our differential diagnoses in early pregnancy[2]. Awareness to emergency room and obstetrics staff is of prime importance in order to diagnose and manage this uncommon but potentially serious entity.

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حالات انحباس البول الحادة وعلاقتها بانحباس الرحم في الحوض: التشخيص المنسي

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المستخلص. انحباس الرحم في الحوض أثناء الحمل هو من الأسباب النادرة لانحباس البول أثناء الحمل حيث أنه منذ عام ١٨٧٧م لا يوجد سوى ٢٢ حالة تم توثيقها ونشرها في العالم. لدينا حالة لحامل عمرها ٢٤ سنة في حملها الأول جاءت لمستشفى جامعة الملك عبدالعزيز في الأسبوع الرابع عشر من الحمل وهي تعاني للمرة الثانية من انحباس للبول خلال ال ٢٤ ساعة السابقة لمجيئها، حيث تم بنجاح تحريرًا لرحمها المسبب لانحباس البول وكان ذلك عن طريق مناورة يدوية بواسطة طبيب أمراض نساء وولادة في قسم الطوارئ؛ وتمت بدون مضاعفات تذكر. وبعدها لم يحدث لها أي شئ يذكر خلال فترة الحمل المتبقية ولم تتكرر عندها عملية انحباس البول، ثم ولدت ولادة طبيعية بعد أن أتمت فترة الحمل. إن انحباس الرحم في الحوض يمكن أن يغفل عنه بسهولة، لكن أي عملية انحباس بول حادة يجب أن تجعلنا نفكر باحتمال وجود انحباس بالرحم، لذلك يعتبر توعية الطاقم الطبي من فريق طوارئ أو فريق أمراض الحمل والولادة مهم جدًا في التشخيص المبكر لهذه الحالة. لأن تصحيحه المبكر أسهل، ويمنع حدوث مضاعفات جدية للأم والجنين، بالإضافة إلى أنه يسمح للحامل بالحفاظ على فرصة الولادة

الطبيعيـة. لـيس هنـاك توصـيات قياسـية لتـدبير هـذه الحـالات لأن المعلومـات عنهـا تعتمـد علـى الحـالات والمضـاعفات المنشـورة؛ لـذلك توثيق هذه الحالات ونشرها أمر مهم.