RCC in Pregnancy: An Unusual Presentation

Priyank Pathak, Shikhar Agarwal, Rajeev Sarpal, Manoj Biswas, Ankur Mittal, Aparesh Sanyal.
Himalayan Institute of Medical Sciences
Swami Rama Himalayan University, Post Jollygrant, District Dehradun, Uttarakhand, India

Abstract: Renal cell carcinoma diagnosed during pregnancy is a rare entity and its management represents a real dilemma. Special attention needs to be given in terms of diagnostic evaluation and management, particularly during the second trimester. We report a patient undergoing right radical nephrectomy at 28 weeks’ gestation. Histological analysis revealed a pT2NxMx clear cell renal cell carcinoma. Here, we review the little literature available on such a rare occurrence.

Keywords: Renal cell carcinoma, second trimester, third trimester, pregnancy

Introduction:

Though renal cell carcinoma during pregnancy is uncommon, as malignancy is common in older patients between 50-70 years of age, it is still the commonest renal neoplasm occurring in pregnancy [1]. It is extremely traumatic for a pregnant woman. It also poses a difficult therapeutic conundrum for the urologist as well as the obstetrician. Till now, only 70 cases have been reported so far in the vast literature available [2].

Case Report:
A woman aged 37 years, G2P2L1, presented at 28 weeks of pregnancy with complaints of right flank pain with hematuria for 1 month. She has no previous history of hypertension, renal disease, or pre-eclampsia. Urinalysis confirmed hematuria without pyuria. Renal ultrasonography revealed large mixed echogenic lesion with solid and cystic areas at mid and lower poles. MRI KUB showed a large round to oval mixed signal intensity mass lesion in the lower pole extending superiorly into the inter-polar region measuring 12 x 8 x 8 cms and renal veins and IVC appear to be normal (Fig 1).

After consultation with obstetric team, patient was given isoxsuprine in intramuscular form for a week before surgery for uterine relaxation and then patient underwent right radical nephrectomy with R0 resection under general anaesthesia by subcostal incision(Fig 2).
Fig 2 shows intraoperative photograph showing gravid uterus after removal of Rt Kidney (Uterus: arrow).

FHS monitoring was done intraoperatively and postoperatively. Postoperatively her recovery was uneventful. Obstetric evaluation was done 2-hourly for initial 2 days and FHR (fetal heart rate) was assessed and then 12-hourly for the rest of the admitted days. The remainder of the pregnancy was without any incident till 35 weeks of gestation when the patient has preterm labor pain. Preterm vaginal delivery with augmentation by cerviprime gel was done, and gave birth to female child weighing 2200 gms.

On histopathological examination the specimen contained the tumor in the middle part of the right kidney with maximum diameter of 11 cms and TNM staging of pT2NxMx and histological clear cell type. The patient remains well no evidence of recurrence or any other symptoms at 5 months follow up.

Discussion:

Renal cell carcinoma is potentially fatal and a rare tumor, which can occur in pregnancy and surgery is only the potential cure, but the timing of the surgery is controversial. It is estimated that less than 0.1% of pregnancies are complicated by any type of neoplasm and only 0.0013% by urinary cancer [3]. Kidney cancer is the most common of those, which means that 2-3 pregnant women should present with it every year [4].

In 1986, Walker and Knight reviewed the presentation and found that the commonest
presenting symptoms were a palpable mass (88%) and pain (50%). Hematuria and hypertension accounted for 47% and 18% of cases [1]. Most common symptom of flank mass may be attributed to increased frequency of abdominal examinations during pregnancy [5]. Recent literature suggests that diagnosis now more frequently made incidentally during ultrasound examination performed for other reasons. This can raise a thought that RCC cannot be considered as the sole cause for such symptoms, thus leading to delay in diagnosis and treatment.

Diagnostic evaluation of pregnant women with possibility of RCC requires noteworthy and unique considerations in view of the non-invasive techniques and the minimal radiation exposure to the mother and foetus. Ultrasonography is the preferred diagnostic modality as it does not carry the risk of radiation to the foetus, but the drawback lies that it is operator dependent. MRI is a good alternative to CT in pregnant patients. It can accurately evaluate the renal mass size and location with involvement of the adjoining structures and the tumor thrombus in renal vein and IVC [6]. They do, however, pose additional risks to the fetus from the passage of radiopharmaceuticals and contrast agents across the placenta so Doppler assessment may be employed.

While treating a pregnant woman with a renal mass, the primary responsibility of the clinician should be the mother’s well being. A multidisciplinary team including urologists, obstetricians, neonatologists, radiologists, maternal-fetal medicine specialists, and oncologists is mandatory for the adequate management of these complex cases. Radical nephrectomy, either open or via the laparoscopic approach, is the gold standard treatment for RCC [7]. In a review of literature by L David, the second trimester is generally identified as the ideal time for performing non-obstetric surgery during pregnancy. The first trimester carries a higher risk of abortion and exposure to teratogens, whereas in the third trimester there is a higher risk of premature labor due to uterine irritation [8]. Conclusion:

A renal mass identified during pregnancy can be malignant, although this is rare. The key treatment is radical nephrectomy. Close collaboration between a multidisciplinary care team and the patient is crucial.

References: