A Pregnant Female with Renal Mass: A Case Report study with review of the current guidelines for management

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Abstract:

Background: Renal cell carcinoma is an uncommon condition that develops during pregnancy. Due to a lack of conventional norms and a dearth of literature, its management is a serious issue.

Case presentation: A Twenty years old female who was in her first pregnancy (G1 P0 A0), had five missing periods (20 weeks gestation), and has frank hematuria due to a large, incidentally detected renal mass. We also go through the current guidelines for treating kidney malignancies during pregnancy, as well as the available imaging studies.

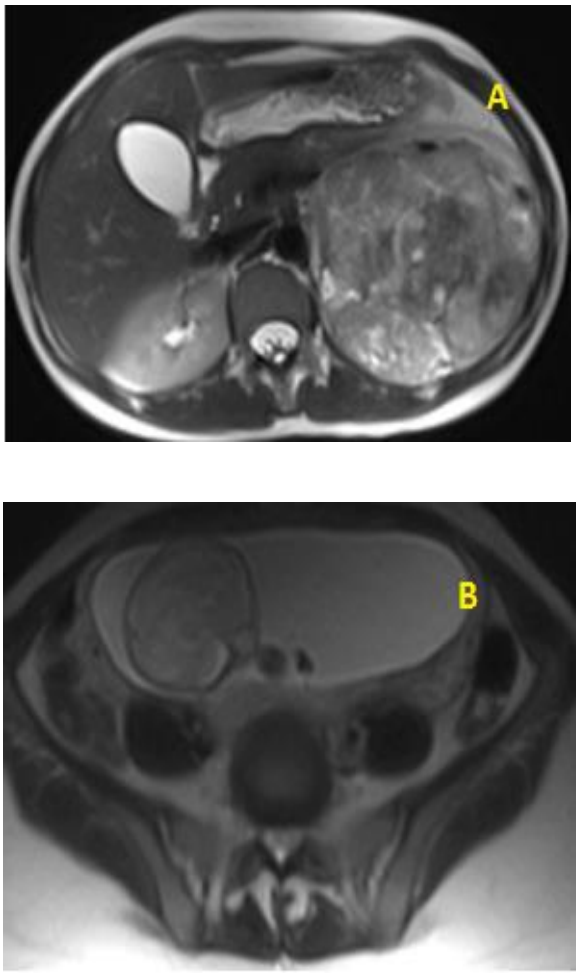
Conclusion: Although the best time for surgery is debatable, the multi-disciplinary team must make the decision. A detailed and thorough discussion with the mother, as well as an explanation of the predicted hazards for each treatment modality, are essential in regards to her wishes and concerns about fetal safety.

Keywords: Pregnancy, renal tumors, Renal-cell carcinoma, Radical nephrectomy, hematuria.

Introduction:

Renal cell carcinoma is lethal cancer that can be discovered by chance during pregnancy. The diagnosis is often delayed in this situation because the clinical presentation is similar to other pregnancy-related disorders, but it should be considered in women who have recurrent or refractory urinary tract symptoms, renal pain, or a palpable mass. Because of the risks of radiation exposure to the fetus from CT scan, Ultrasound examination, and, in some cases, magnetic resonance imaging may be used in the diagnostic process. If the problem is localized, surgery is the best option. Because of the rarity of this diagnosis, standardized guidelines for management are unavailable, and decisions are made on an individual basis for each case, taking into account the welfare of both the mother and the fetus [1,2].

Imaging: The abdominal ultrasound showed a heterogeneous left upper pole renal mass measuring 10.5cm × 7.5cm, an intrauterine gestational sac, and a viable fetus with a bi-parietal diameter (BPD) of 33.0 cm. **MRI:** Left upper pole heterogeneous soft tissue renal mass, 10.5 &7.5cm pressing on the adjacent renal parenchyma with surrounding abnormal high signal intensity and scanty amount of fluid. Picture suggestive of renal tumor (Picture 1).



Picture 1: MRI showed: A. Left heterogeneous mass & B. The gestation sac.

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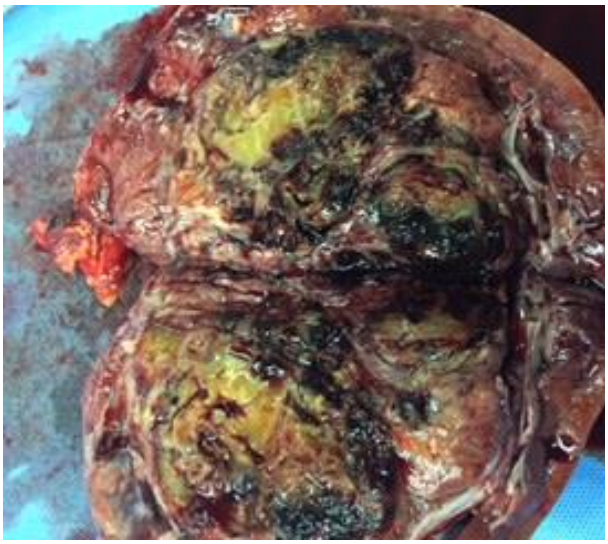
Management: The case was thoroughly discussed with the patient and her family at the multidisciplinary team (MDT) meeting (Picture 2). Close observation was performed until 34 weeks of gestation, the patient then delivered a female fetus by Cesarean Section, and the patient underwent left radical nephrectomy four weeks later.

Picture 2: The case was discussed in MDT session.



Picture 3: The mass bisected after removal (look at the golden appearance of tumor).

Histopathology: Revealed renal cell carcinoma stage T2.
Further management: Follow up.

Discussion
Radial nephrectomy, either open or laparoscopic, is the gold standard treatment for RCC [2]. Laparoscopic radical nephrectomy during pregnancy is becoming more common when it is possible [3]. O'Connor and his associates were the first to describe a successful laparoscopic radical nephrectomy while expecting a child [4]. The ideal time for surgery during pregnancy, as well as the impact of surgery on mother and fetal health, are important concerns. During pregnancy, the second trimester is typically regarded as the optimal period for non-obstetric surgery [5]. We discussed our patient in the MDT meeting; the patient refused any risk for her precious baby, so we waited till full term and delivery was done by elective Cesarean Section, after that the patient was planned for radical nephrectomy. We perfthe ormed surgery ththe rough left para median incision as with that incision you can extend this incision to the thorax when needed (Thoraco-abdominal incision). The first trimester is associated with a higher risk of abortion and teratogen exposure, whereas the third trimester is associated with a higher risk of premature labor due to uterine irritation [5].
Although the treatment of RCC during pregnancy has been reviewed, the guidelines are not yet perfect. Louglin [6], On the other hand, recommended radical nephrectomy for all pregnant women with RCC discovered during the first trimester. For RCC discovered during the second trimester, the recommendation is to wait until the gestational age of 28 weeks to ensure that fetal lung maturity has been achieved before undergoing radical nephrectomy. If RCC is discovered in the third trimester, he recommends a radical nephrectomy with Cesarean Section in the same time [7]. Although CT scan with contrast is the imaging modality of choice for the diagnosis of renal tumors, in this case we used ultrasound and MRI for the diagnosis because of the risk of conventional CT scan on the fetus [8]. Magnetic resonance imaging (MRI) is a good choice as an alternative imaging modality to CT scan [9]. Laparoscopy has increasingly become an acceptable surgical technique in pregnancy in recent years and surgeons' experience has improved. The British Society for Gynecological Endoscopy commissioned an evidence-based recommendation on laparoscopy in pregnancy, which suggests that laparoscopic surgery in pregnancy be performed in settings with enough time, laparoscopic expertise, and monitoring facilities [10].

Conclusion:
Although there was no clear-cut answer on the best time to do surgery, a multidisciplinary team comprised of an oncologist (surgical and medical), a gynecologist, a radiologist, and a urologist was required to make the decision. With regards to her wishes and concerns about fetal safety, a detailed and thorough discussion with the mother, as well as an explanation of predicted hazards for each treatment modality, are required.

Author contribution:
Saad D. Farhan: Case study management , Writing of the article.
Amina F. Ridha : a collection of the up to date references, and contributions to the discussion.

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ورم الكلية عند المرأة الحامل ، حالة فريدة مع مطالعة المصادر العلاجية الحديثة

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سرطان الكلية من النادر ان يحدث اثناء الحمل وطريقة علاجه من الامور التي تخضع لاجتهادات مختلفه حسب فترة الحمل و الوضع الصحي للمراة الحامل هنا ننافش حالة مرضية نادرة لامرأة حامل تم تشخيصها كمصابة بمرض سرطان الكلية الخبيث ويتم طرح الحالة على لجنة متعددة الاختصاصات لمناقشة السبل العلاجية الملائمة والوقت الملائم لاجراء التداخل الجراحي لرفع الكلية الجذري مع احترام خيارات المريضة ومقارنتها مع احدث المصادر العلمية في علاج هذه الحالة النادرة.