

## Peer Review File

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Dear Editors and Reviewers:

We would like to thank you for giving us an opportunity to revise our manuscript, and also thank reviewers for giving us constructive comments and suggestions. We have studied the comments carefully and the manuscript has been revised according to the suggestions to the best of our ability, which we hope can meet with approval. The following is our response to all the comments.

### Reviewer A

**Comment 1:** This study was reported the surgical management of incomplete duplex kidney. The reviewer would like to suggest some critiques as follows. Major revision 1. “duplex kidney” is called for congenital anomaly of kidney. “Incomplete double pelvis of the right kidney” is collected. 2. The authors should separate 2 sentences, on line 33 and 68.

**Response 1:** Thanks for your review. Your comments on the different meaning between the two phrase "Incomplete double pelvis of the right kidney" and "duplex kidney" is very insightful and we have modified our text as advised (see Page 6, line 114). Furthermore, we have also separated the sentences as advised. (See line 33 and 68).

### Reviewer B

**Comment 1:** Overall – The case report presented here is an interesting, rare case accompanied by a creative surgical reconstruction and a nice surgical video. Overall, I believe it is a sufficiently interesting case that warrants publishing after some minor changes and copy-editing is completed. I could not personally publish a paper in a language I’m not familiar with, so the authors’ submission should be commended, however it would benefit from editing by a native English speaker as there are numerous structural and grammatical errors.

**Response 1:** Thanks for your approval and encouragement about this case report, and we are very sorry about the language deficiency in this manuscript. We do take it seriously and ask the professionals in an English language editing company named AJE to revised our manuscript and correct the structural and grammatical errors as indicated.

**Comment 2:** Abstract: - Please briefly describe the reconstructive approach in the abstract rather than state it as a “specially modified reconstructive technique”

**Response 2:** We have made correction according to the Reviewer's comments. We have described the reconstructive approach as "ureteropyelostomy between the upper pole ureter and lower pole pelvis, plus a dismembered pyeloplasty between the lower pole pelvis and common ureter" in the Abstract. (see page 2, line 33)

**Comment 3:** Intro - Line 43: “The” is unnecessary at start of sentence “The ureteropelvic junction obstruction...”

**Response 3:** We have modified our text as advised (see page 3, line 47)

**Comment 4:** Line 44: Include citation to support statement “UPJO can be associated with incomplete duplex kidney”

**Response 4:** We have added the citation to support this statement. (see Reference Section, reference 3)

**Comment 5:** In general, paper would benefit from proofreading/editing by a native English speaker

**Response 5:** We have asked the professionals in an English language editing company named AJE to revised our manuscript and correct the structural and grammatical errors as indicated (the detailed changes seen in the intro section).

**Comment 6:** Case Presentation - Was her right flank pain exacerbated by anything in particular? Was it instigated by alcohol intake, diuretic use, high-volume fluid intake (Dietl’s crisis)

**Response 6:** Thanks for your comments. The patient presented with crampy upper abdominal pain, nausea, and vomiting, known as Dietl Syndrome. However, after we investigated the detail in the patient's history, we found nothing particular that triggers the exacerbation of the symptoms. The patient took no alcohol, and she didn't regularly received diuretics (She reported no sudden pain during diuretic renal scan). Besides, there was no distinct relationship between the flank pain and large fluid intake.

**Comment 7:** The authors imply a GFR of 55 mL/min was calculated by a diuretic renal scan – what agent was used? I suspect a MAG3 scan with lasix was used. If that is true, then GFR cannot be calculated from this test. Please clarify

**Response 7:** Thanks for your comments. In this case, the agent used for diuretic scan was 99m-DTPA, and we have made it clear in the manuscript (see page 4, line 68).

**Comment 8:** Do the authors have information on the patient’s prior renal function? I would be interested to know if her renal function had declined over time or acutely changed

**Response 8:** Based on the patient's medical history, we concluded that her renal function acutely dropped during this admission. Six months before this admission, the patient's renal function was normal. The renal scan showed a GFR of 84 mL/ml, the laboratory test revealed the serum creatinine was 56.7umol/L and estimated glomerular filtration rate was 97.2 ml/min/1.73m<sup>2</sup>.

**Comment 9:** Perhaps the authors could comment on the intra-operative appearance of the renal pelvises and ureters

**Response 9:** Thanks for the comments. We have added the brief description of the intra-operative appearance in the manuscript. (see page 4, line 76, "After the dissection, an incomplete duplicated collecting system was visualized as in preoperative imaging. The proximal upper pole ureter was dilated and the distal end was narrow and thin. The upper pole ureter coursed medially to the dilated lower pole pelvis and the stenotic ureteropelvic segments were close to the ureteral confluence. No crossing vessels was found (Video 1)")

**Comment 10:** What do the authors propose was the etiology of obstruction in both the upper and lower poles? Were any crossing vessels seen?

**Response 10:** There were no crossing vessels seen in the preoperative imaging and intra-operative findings. In our view, the basic etiology of obstruction is the congenital duplicated collecting system itself. Generally, the ureter in this congenital anomaly is usually lack of normal musculature, thus causing inadequate peristalsis and eventually obstruction.

**Comment 11:** Please comment on the type of suture used and suturing technique

**Response 11:** We have used vicryl suture on operation with intermittent suture technique (seen in video)

**Comment 12:** Discussion - The discussion would be enhanced by a brief discussion of the embryologic origin of duplicated and incompletely duplicated collecting systems

**Response 12:** Thanks for the comments, and We have added a brief discussion of the embryologic origin of duplex kidney. (see in page 5, line 99, "The duplicated collecting system is a congenital urological anomaly due to the disrupted integration between the Wolffian duct and the metanephron. Normally, a single ureteric bud arises from the Wolffian duct and migrates to meet the metanephrons, then the former bifurcate sequentially to form the renal collecting system and the latter evolve into the renal parenchyma. Specially, when the single ureteric bud bifurcates prior to meet the metanephrons, the incomplete duplicated kidney was developed").

### **Reviewer C**

**Comment 1:** first of all, congratulations on a very well done surgery!

**Response 1:** Thanks for your approval and encouragement.

**Comment 2:** I have some questions 1. why was this congenital pathology not picked up at the time of the left nephrectomy previously? was there no previous scan before left nephrectomy?

**Response 2:** The reason that this congenital pathology was not picked up at the time of the left nephrectomy was poverty and underdeveloped health services. The patient had her left kidney excised at the age of eight in 1960s, back then, the Mainland China was suffering the Cultural Revolution, and its people lacks access to essential health services. According to the patient, she had an emergent surgery, but she

reported no detail of this surgery. Besides, there were no medical record preserved. Thus, we didn't know whether there was a previous scan before left nephrectomy. In the later years, the patient didn't pay a visit to hospital since she felt fine all the time. Therefore, though sounds incredible, it's true that the patients only get to know the presence of her congenital pathology in her fifties when there were symptoms associated with this congenital anomaly.

**Comment 3:** suggest to include the primary surgeon's experience and especially laparoscopic experience, as this will serve as a guidance to others who want to recreate this technique laparoscopically.

**Response 3:** The surgeon has performed laparoscopic surgery for 10 years and have successfully performed over 300 urological reconstructive cases. This information has already been added to the manuscript. (see page 4, line 88).

**Comment 4:** is robotic instead of laparoscopic preferred option, if it is available? i note that op time is slightly more than 4 hours. perhaps robotic assistance can help to reduce op time.

**Response 4:** We also believe that robotic surgery could be a preferred option if it is available. Robotic surgery comes with greater surgical precision and improved dexterity and it makes suture much easier and could definitely reduce operative time. However, robotic surgery is much expensive than laparoscopic surgery, and the patient could not afford its cost. So, we finally chose the laparoscopic approach.