Peer Review File

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Reviewer A

General comments
The authors evaluated the effect and safety of 6.3 Fr disposable scope. They demonstrated digital flexible ureteroscopic lithotripsy with a 6.3 Fr disposable scope combined is a safe, feasible, and efficient option for management of unilateral ureteric and renal stones in the case of duplex kidney. This paper is very interesting and informative.
The reviewer would like suggests several issues as follows;
1) Specific comments for revision
a) Minor
#1 Is the access sheath 10Fr for the outer tube? Please add a description of the diameter of the inner tube.
Reply: Thank you for your question. A 10/12 Fr ureter access sheath was used, where the inner tube diameter is 10 Fr, and the outer tube diameter is 12 Fr. We have added this description to the revised manuscript.
Changes in the text:
"A 10/12 Fr tip-flexible ureteral access sheath (TF-UAS; Shenzhen Kangyibo Technology Development Co., Ltd., Shenzhen, China)." Page 4 lines 135-137.
"The 10/12 Fr TF-UAS was preferred over a larger UAS (e.g. 12/14 Fr)." Page 6 line 203.

#2 If it is a 10/8Fr access sheath, was there any problem with endoscopic mobility when a 6.3Fr flexible ureteroscope was inserted into the access sheath? Was there adequate drainage of irrigation fluid?
Reply: Thank you for your question. The access sheath used was a 10/12 Fr tip-flexible UAS. The ureteroscope-to-sheath diameter ratio was 0.63, which fulfills the ≤ 0.75 value recommended in literature. Irrigation fluid was adequate throughout the procedure.
Changes in the text:
"The basket was 2.4 Fr, which took up approximately 14.5% of the cross-sectional area of the working channel and reduced irrigation flow speed. Without it, drainage of the irrigation fluid remained adequate." Page 5 lines 169-170.
"The 10/12 Fr TF-UAS was preferred over a larger UAS (e.g. 12/14 Fr). Other than preventing ureteral injury, the TF-UAS and 6.3 Fr ureteroscope combination resulted in a 0.63 ureteroscope-sheath diameter ratio, which met the recommended value of ≤0.75 to maintain a safe intrarenal pelvic pressure [17]. Additionally, a low intrarenal pressure could enable a larger irrigation flow and higher irrigation pressure, which facilitated with stone fragment aspiration and clearing surgical vision [18]. In Table 1, the irrigation flow was tested at settings with different procedures in a simulation and results were generally satisfactory to facilitate stone clearance." Page 6 lines 203-209.

#3 Please add details of the negative pressure suctioning system, thickness, length and manufacturer, etc.
Reply: Thank you for your suggestion. We apologize for the misunderstanding. A negative pressure suctioning system dedicated to the device was not used. Instead, the common vacuum regulator (GENTEC® Model 881VR; GENTEC (SHANGHAI) Corp., Guangdong, China; Figure 1) for suctioning was used. We first connected the suction bottle to the regulator, then connected to bottle to the TF-UAS via the connecting tube (Figure 2). The negative pressure is maintained at 100 – 150 mmHg.

Figure 1. The GENTEC suction regulator used intraoperatively.

Figure 2. Connection of the tip-flexible ureteral access sheath with the suction bottle that is connected to the GENTEC suction regulator.

Changes in the text: "The TF-UAS was attached to the suction bottle connected to a continuous suction regulator maintained at a negative pressure of 100 – 150 mmHg." Page 4 lines 139-140.

#4 Is it possible to retrieve a 6mm renal stone without laser lithotripsy using the following method? "Once the renal pelvis stones were identified, they were retrieved with a stone basket (79)"

Reply: Thank you for your question. We have added a detailed description of the left upper urinary stones, including ureteric stone (8 × 7 mm), a renal stone at the middle calyx in the upper moiety (6 × 5 mm), and another at the inferior calyx (5 × 3 mm). It is our common practice to fragmentize the stones before being aspired. Due to the difficult angle caused by the anomaly, a stone basket had to be used to directly retrieve the stone.

Changes in the text: "Computed tomography (CT) identified duplication of the left kidney, with a proximal ureteric stone (8 × 7 mm; 795 Hounsfield units [HU]) and mild lower moiety hydronephrosis with suspected ureteritis, an upper moiety stone at the middle calyx (6 × 5 mm; 780 HU) and inferior calyx (5 × 3 mm; 692 HU) (Figure 1)." Page 4 lines 128-131.

"The upper moiety stones were identified and fragmented in the same manner. Stone fragments in the middle calyx were aspired while those in the inferior calyx had to be retrieved with a stone basket (Cook Medical, Bloomington, IN, USA)." Page 4 line 143-144 and page 5 line 147.

"In this case, a stone retrieval basket was required due to the difficult angle when accessing the inferior calyx of the upper moiety." Page 5 lines 168-169.

#5 There were renal stones in a different kidney than the ureteral stone. Please add a description in the text to indicate this

Reply: Thank you for pointing this out. We apologize for missing the description of the stones. The patient has a total of 3 stones, namely a ureteric stone (8 × 7 mm), a renal stone at the middle calyx in the upper moiety (6 × 5 mm), and a renal stone at the inferior calyx in the upper moiety (5 × 3 mm). This has been added in the revised manuscript.

Changes in the text: "Computed tomography (CT) identified duplication of the left kidney, with a proximal ureteric stone (8 × 7 mm; 795 Hounsfield units [HU]) and mild lower moiety hydronephrosis with suspected ureteritis, an upper moiety stone at the middle calyx (6 × 5 mm; 780 HU) and inferior calyx (5 × 3 mm; 692 HU) (Figure 1)." Page 4 lines 128-131.

#6 What are the disadvantages of the 6.3Fr Disposable Flexible Ureteroscope versus previous endoscopes in terms of thinness, if any?

Reply: Thank you for your question. Firstly, the flexibility of the flexible tip ureteral access sheath is determined by the toughness and integrity of the accompanying scope. The 6.3Fr scope is comparatively thinner and therefore weaker than conventional 7.5 Fr scopes, which reduces the flexibility of the tip. Secondly, the working channel of the 6.3 Fr scope is only 3.0 Fr, which is much narrower than the standard 3.6 Fr. When using the 2.4 Fr stone retrieval basket, approximately 14.5% of the working channel is occupied and irrigation flow speed is diminished. We believe that the disadvantages mentioned worthy of discussion and have included it.

Changes in the text: "Firstly, the working channel of the 6.3 Fr scope is tapered down to 3.0 Fr and much narrower than the standard 3.6 Fr. In this case, a stone retrieval basket was required due to the difficult angle when accessing the inferior calyx of the upper moiety. The basket was 2.4 Fr, which took up approximately 14.5% of the cross-sectional area of the working channel and reduced irrigation flow speed. Without it, drainage of the irrigation fluid remained adequate. Other than minimizing the need for stone baskets, another plausible solution may be the application of small diameter baskets (i.e. 1.5 Fr) that demonstrated satisfactory perforation and radial dilation force, opening dynamics, and deflection resistance [10]. However, the combination of a 6.3 Fr scope and small diameter baskets will require further research and comparison before elucidating its feasibility and efficiency. Similarly, thulium fiber laser may be more suitable given its smaller diameter compared to traditional holmium lasers [11]. The better dusting technique also promoted smaller stone fragments that could be naturally eliminated and possibly obliterate the use of stone baskets [12].

Secondly, a smaller shaft diameter makes the scope lighter, less stiff, and less resistant to bending even when the same materials are used. Therefore, while the scope is able to pass through narrower lumens and minimize ureteral injury, the influence of a 6.3 Fr scope in controlling the flexible tip of the UAS is weaker than the conventional 7.5 Fr scope. This was a reason for the need to use a stone basket instead of proceeding with stone aspiration for the aforementioned renal stone. However, the overall process of stone retrieval was smooth and carried out within a reasonable amount of time." Page 5 lines 167-176 and page 6 lines 184-191.

#7 In the concluding sentence "Digital flexible ureteroscopic lithotripsy with a 6.3 Fr disposable scope combined with TF-UAS is a safe, feasible, and efficient option for management of unilateral ureteric and renal stones in the case of duplex kidney", I think "with TF-UAS" is unnecessary phrase in the sentence

Reply: Thank you for your suggestion. We have changed the conclusion accordingly to be in line with the report.

Changes in the text: "The novel 6.3 Fr disposable digital flexible ureteroscope is the thinnest known scope that is commercially-available. This case documents its first application for stone retrieval in a patient with duplex kidney and has demonstrated both safety and feasibility as complete stone clearance was achieved with no postoperative complication. However, a thinner device has less strength and working space, which may require improvement in designs or adaptation along with other instruments. Larger cohorts and comparison studies are necessary

to fully elucidates its performance." CONCLUSION page 7 lines 234-239.

Reviewer B

Here are my comments.
The abstract would need some rephrasing. It's confusing to present also a novel sUAS device, that is not mentioned in the first part of the abstract or title. The size of the stones could be mentioned at least.
Reply: Thank you for your question and suggestions. We apologize for also presenting the novel TF-UAS when it's not the main focus of this report. The sentence has been removed. For this patient, she had an ureteric stone (8 × 7 mm), a renal stone at the middle calyx in the upper moiety (6 × 5 mm), and another at the inferior calyx (5 × 3 mm).
Changes in the text:
"Background:
Flexible ureteroscopy (FURS) is increasingly used as the first-line treatment for urological procedures. Disposable digital (dd-) FURS has been developed to overcome limitations such as durability, degradation, and repair cost of reusable scopes. The diameter of commercially-available models ranges from 7.5 – 9.9 Fr. This study aimed to report the first clinical application of a novel 6.3 Fr HU30M HugeMed dd-FURS.

Case Description:
We present the case of a 61-year-old female diagnosed with a left ureteric (8 × 7 mm) and two renal stones (6 × 5 mm and 5 × 3 mm) located at both moieties of her duplex kidney. She was opted for elective flexible ureteroscopic lithotripsy. The 6.3 Fr dd-FURS was preferred to overcome the challenging anatomy. No intra-/peri-operative complication was observed and the patient made an uneventful recovery. Complete stone clearance was achieved based on 2-week follow-up computed tomography.

Conclusions:
The application of the 6.3 Fr dd-FURS demonstrated its feasibility, safety, and efficacy in stone retrieval. However, a thin device has its limitations, including its stiffness and working space area. Adaptation to the device during procedures or further improvements may be necessitated. Yet, this scope has potential in the management of pediatric urology procedures and complex upper urinary tracts." ABSTRACT page 2 lines 34 – 53.

How complete stone clearance was assessed ? endoscopically or with a follow-up CT?
Reply: Thank you for your question. Complete stone clearance was assessed with plain computed tomography at 1-day and 2 weeks post-operation. We have added it to the abstract.
Changes in the text: "Complete stone clearance was achieved based on 2-week follow-up computed tomography." ABSTRACT page 2 lines 46-47.
"At two weeks follow-up, CT confirmed complete stone clearance and both the left ureteric stents were removed without complication (Figure 2)." Page 5 lines 151-152.

Introduction: I respectfully disagree about the absence of guidelines for anatomical abnormalities. In the last EAU guidelines, there are a whole section that refers to many situations of anatomical variations. I acknowledge that duplex system is not one of them and that could be a good point to discuss.
Reply: Thank you for pointing this out. We agree with your statement that the EAU included management recommendations for different anatomical variations but not the duplex system. We have rephrased the sentence and also added this to DISCUSSION.
Changes in the text:
"While the European Association for Urology (EAU) guidelines for urolithiasis mentions management for anatomical variants of the upper urinary tract, no clear recommendation is available for patients with duplex kidney [1, 4]." Page 3 lines 89-91.

"The duplex kidney has a variety of anatomic phenotypes and can lead to complications including pelvicalyceal dilatation, cortical scarring, vesicoureteral reflux, hydronephrosis, and ureteroceles [13]. Radiographic diagnosis of a duplex kidney can be easily missed or misdiagnosed due to limitations in relaying a complete diagnostic feature [14]. There is no study comparing the mean ureter diameter between duplex kidney and normal anatomy. However, stenosis and tortuosity can be anticipated. The management of urolithiasis in patients with duplex kidney is not clearly detailed in the EAU guideline for urolithiasis nor under pediatric urology. Retrograde intrarenal surgery is gradually preferred over percutaneous nephrolithotomy due to its less invasiveness [15]. FURS with holmium laser lithotripsy was a safe and feasible option [8]. Therefore, a 6.3 Fr scope would be a promising option for the management of urolithiasis in children without or without duplex kidney given that the average widest internal ureteral diameter is 3.8 mm [16]." Page 6 lines 192-202.

In 2024, we cannot state that Holmium YAG is the only safe option to treat a stone. Authors should at least cite the TFL that has demonstrated better dusting abilities in RCT and Meta-Analysis. Moreover, both are in the EAU guidelines now.
Reply: Thank you for pointing this out. We agree that TFL has better dusting abilities than the holmium YAG. This has been added to DISCUSSION along with supporting references.
Changes in the text: "Similarly, thulium fiber laser may be more suitable given its smaller diameter compared to traditional holmium lasers [11]. The better dusting technique also promoted smaller stone fragments that could be naturally eliminated and possibly obliterate the use of stone baskets [12]." Page 5 lines 175-176 and page 6 line 184-185.

Please do not present the case before the method section.
Reply: Thank you for your advice, we have removed the case presentation in INTRODUCTION section.
Changes in the text: "In this study, we report a successful case of dd-flexible ureteroscopic lithotripsy for complete duplex kidney with concomitant ureteric and renal lithiasis using a novel 6.3 Fr scope. We further evaluate its strengths and weaknesses for stone retrieval procedures." Page 3 line 98 and page 4 lines 115-116.

Case presentation :
How many renal stones? In a case report, the reader expects the case to be precisely described
Reply: Thank you for your question. We agree and apologize for missing the description of the stones. The patient has a total of 3 stones, namely a ureteric stone (8 × 7 mm), a renal stone at the middle calyx in the upper moiety (6 × 5 mm), and a renal stone at the inferior calyx in the upper moiety (5 × 3 mm). This has been added in the revised manuscript.
Changes in the text: "Computed tomography (CT) identified duplication of the left kidney, with a proximal ureteric stone (8 × 7 mm; 795 Hounsfield units [HU]) and mild lower moiety hydronephrosis with suspected ureteritis, an upper moiety stone at the middle calyx (6 × 5 mm; 780 HU) and inferior calyx (5 × 3 mm; 692 HU) (Figure 1)." Page 4 lines 128-131.

Why pushing the ureteral stone in the renal cavities? Is that a common practice or a recommendation?
Reply: Thank you for your question. Yes, it is our common practice to do so as we worry that performing holmium laser lithotripsy within the ureter would cause direct damage to the lumen. To prevent ureteric injury, we prefer pushing the ureteral stones into the renal cavities prior pulverization.
Changes in the text: None.

Discussion :
We lack from a description of the device : shaft length, shaft diameter with can differ from the tip
Reply: Thank you for pointing this out. The 6.3 Fr is 920 mm long in total, with the insertion part being 665 mm, and the operable part 225 mm. The diameter of the device is 6.3 Fr

throughout with no difference at the tip.
Changes in the text: "For its design, the scope measures 920 mm in length and the operable segment takes up 225 mm. The shaft diameter is constantly 6.3 Fr and has a 3.0 Fr working channel. The scope also has a 270º bidirectional deflection angle (Figure 3)." Page 5 lines 161-163.

"Although it was reported that the BOA and COBRA system (Richard Wolf, Knittlingen, Germany) digital ureteroscopes, there is no published data regarding its application in vivo [10]." A part of this sentence is missing
Reply: Thank you for your question. We apologize for the poor phrasing. We meant to stress on how this was the first thinnest scope reported. However, we have removed the sentence.

I would reorganize the discussion in tow sections : one for the scope and one for the SUAS. In the present form, this is confusing
Reply: Thank you for pointing this out. We apologize for the confusion. The primary focus of this article is the 6.3 Fr scope and less has been discussed regarding the TF-UAS. The entire DISCUSSION section has been rewritten.

Conclusion : is not in line with the title. Please modify one or the other.
Reply: Thank you for pointing this out. We have changed the CONCLUSION of this report.
Changes in the text: "The novel 6.3 Fr disposable digital flexible ureteroscope is the thinnest known scope that is commercially-available. This case documents its first application for stone retrieval in a patient with duplex kidney and has demonstrated both safety and feasibility as complete stone clearance was achieved with no postoperative complication. However, a thinner device has less strength and working space, which may require improvement in designs or adaptation along with other instruments. Larger cohorts and comparison studies are necessary to fully elucidates its performance." CONCLUSION page 7 lines 234-239.

Reviewer C

The authors report a fURS case using a 6.3 Fr single-use flexible ureteroscope in combination with a suctioning ureteral access sheath, in a patient with stones in both moieties of a duplex collecting system.

- The lower moiety stone is reported as 6 mm x 4 mm and was directly extracted through the 10 Fr sheath with a basket without requiring lithotripsy. Since 10 Fr = 3.33 mm, it would seem even the shortest axis of the stone would exceed the sheath diameter?
Reply: Thank you for your question. Firstly, we apologize for not clearly describing the stones identified in this patient. The patient had a ureteric stone (8 × 7 mm) located at the ureter connected to the left moiety and two renal stones (6 × 5 mm and 5 × 3 mm, respectively) located at the middle and inferior calyces of the upper moiety. Secondly, the ureteral access sheath is 10/12 Fr (inner/outer tubes). Indeed, the stone axis exceed the sheath diameter. Therefore, stones were pulverized with holmium laser lithotripsy prior aspiration with negative pressure. As for the lower calyx upper moiety renal stone, it had to be retrieved with a stone basket due to difficult angle from the anomaly. In the revised manuscript, we have detailed the location of the stones, its axis, and density in Hounsfield units. We have also added in DISCUSSION, the disadvantages of using a 6.3 Fr scope and the accompanying instruments.
Changes in the text: "Computed tomography (CT) identified duplication of the left kidney, with a proximal ureteric stone (8 × 7 mm; 795 Hounsfield units [HU]) and mild lower moiety hydronephrosis with suspected ureteritis, an upper moiety stone at the middle calyx (6 × 5 mm; 780 HU) and inferior calyx (5 × 3 mm; 692 HU) (Figure 1)." Page 4 lines 128-131.
"In this case, a stone retrieval basket was required due to the difficult angle when accessing the inferior calyx of the upper moiety. The basket was 2.4 Fr, which took up approximately 14.5% of the cross-sectional area of the working channel and reduced irrigation flow speed. Without

it, drainage of the irrigation fluid remained adequate. Other than minimizing the need for stone baskets, another plausible solution may be the application of small diameter baskets (i.e. 1.5 Fr) that demonstrated satisfactory perforation and radial dilation force, opening dynamics, and deflection resistance [10]. However, the combination of a 6.3 Fr scope and small diameter baskets will require further research and comparison before elucidating its feasibility and efficiency. Similarly, thulium fiber laser may be more suitable given its smaller diameter compared to traditional holmium lasers [11]. The better dusting technique also promoted smaller stone fragments that could be naturally eliminated and possibly obliterate the use of stone baskets [12]." Page 5 lines 168-176 and page 6 line 184-185.

- What is the specific novelty of the 6.3 Fr scope in this case? In other words, would other conventional flexible scopes (>6.3 Fr) have been able to achieve the same outcome? If the patient had ureteral stricture or other anatomic pathology that would have precluded the use of larger scopes, please provide details.

Reply: Thank you for your question. So far, the advantage of the 6.3 Fr scope is its thinness that makes it pass through ureters with a narrow lumen. Because the flexible tip of the UAS is driven by the underlying scope, a 6.3Fr scope is comparatively less sturdy than the conventional 7.5 Fr scopes, making maneuvering of the tip less sensitive. Also, the working channel of the 6.3 Fr scope is 3.0 Fr, and by inserting a 2.4 Fr stone basket, 14.5% of the working space is occupied that reduced irrigation flow speed. Therefore, improvement and adaption to the device is necessary before optimizing the use of this thin scope. We have added this to DISCUSSION.

Changes in the text: "This report documents the successful stone removal in a patient with duplex kidney complicated with a ureteric and renal stones using a novel 6.3 Fr dd-FURS, which is the thinnest model commercially-available to date. For its design, the scope measures 920 mm in length and the operable segment takes up 225 mm. The shaft diameter is constantly 6.3 Fr and has a 3.0 Fr working channel. The scope also has a 270º bidirectional deflection angle (Figure 3). Generally, the scope offers technical features comparable to that of conventional scopes, including visualization and manipulation (Figure 4) [9]. Although the thin diameter makes it a possibly promising endoscopic tool for the pediatric population and patients with complex upper urinary tract anatomy, certain limitations of the device ought to be discussed.

Firstly, the working channel of the 6.3 Fr scope is tapered down to 3.0 Fr and much narrower than the standard 3.6 Fr. In this case, a stone retrieval basket was required due to the difficult angle when accessing the inferior calyx of the upper moiety. The basket was 2.4 Fr, which took up approximately 14.5% of the cross-sectional area of the working channel and reduced irrigation flow speed. Without it, drainage of the irrigation fluid remained adequate. Other than minimizing the need for stone baskets, another plausible solution may be the application of small diameter baskets (i.e. 1.5 Fr) that demonstrated satisfactory perforation and radial dilation force, opening dynamics, and deflection resistance [10]. However, the combination of a 6.3 Fr scope and small diameter baskets will require further research and comparison before elucidating its feasibility and efficiency. Similarly, thulium fiber laser may be more suitable given its smaller diameter compared to traditional holmium lasers [11]. The better dusting technique also promoted smaller stone fragments that could be naturally eliminated and possibly obliterate the use of stone baskets [12].

Secondly, a smaller shaft diameter makes the scope lighter, less stiff, and less resistant to bending even when the same materials are used. Therefore, while the scope is able to pass through narrower lumens and minimize ureteral injury, the influence of a 6.3 Fr scope in controlling the flexible tip of the UAS is weaker than the conventional 7.5 Fr scope. This was a reason for the need to use a stone basket instead of proceeding with stone aspiration for the aforementioned renal stone. However, the overall process of stone retrieval was smooth and carried out within a reasonable amount of time.

The duplex kidney has a variety of anatomic phenotypes and can lead to complications including pelvicalyceal dilatation, cortical scarring, vesicoureteral reflux, hydronephrosis, and ureteroceles [13]. Radiographic diagnosis of a duplex kidney can be easily missed or misdiagnosed due to limitations in relaying a complete diagnostic feature [14]. There is no

study comparing the mean ureter diameter between duplex kidney and normal anatomy. However, stenosis and tortuosity can be anticipated. The management of urolithiasis in patients with duplex kidney is not clearly detailed in the EAU guideline for urolithiasis nor under pediatric urology. Retrograde intrarenal surgery is gradually preferred over percutaneous nephrolithotomy due to its less invasiveness [15]. FURS with holmium laser lithotripsy was a safe and feasible option [8]. Therefore, a 6.3 Fr scope would be a promising option for the management of urolithiasis in children without or without duplex kidney given that the average widest internal ureteral diameter is 3.8 mm [16]." Page 5 lines 159-176 and page 6 lines 184-202.

- Authors should take care to discuss the device in a scientific and objective manner and avoid editorial or advertising comments.
Reply: Thank you for your suggestion. We deeply agree and have modified the entire DISCUSSION section to prevent any misunderstanding.

Reviewer D

Well report for this rare situation.
1) In line 129 which has mentioned "....the use of a 6.3 Fr dd-FURS and 1- Fr TF-UAS..." I'm not sure if you mean 10 Fr TF-UAS ?
Reply: Thank you for pointing this out. We apologize for the mistake. We have corrected the 10Fr TF-UAS to 10/12Fr TF-UAS throughout the article. The DISCUSSION section has been rewritten and the sentence was deleted. However, we made sure that this typographical error is avoided. Thank you.

2) At this moment, there are several disposable fUASs in the market and here is a recent study comparing these scopes in term of mechanical and optic properties. In vitro Comparison of the Mechanical and Optical Characteristics of 5 Disposable Flexible Ureteroscopes. (https://pubmed.ncbi.nlm.nih.gov/38599181/). Therefore, if you could mention this study compares with the scope you have used, it would help your report sounds interesting
Reply: Thank you very much for providing this reference. We have rewritten the DISCUSSION section and have discussed the 6.3 Fr scope with the other disposable scopes mentioned in the suggested article.
Changes in the text: "This report documents the successful stone removal in a patient with duplex kidney complicated with a ureteric and renal stones using a novel 6.3 Fr dd-FURS, which is the thinnest model commercially-available to date. For its design, the scope measures 920 mm in length and the operable segment takes up 225 mm. The shaft diameter is constantly 6.3 Fr and has a 3.0 Fr working channel. The scope also has a 270º bidirectional deflection angle (Figure 3). Generally, the scope offers technical features comparable to that of conventional scopes, including visualization and manipulation (Figure 4) [9]." Page 5 lines 159-164.
"Firstly, the working channel of the 6.3 Fr scope is tapered down to 3.0 Fr and much narrower than the standard 3.6 Fr. In this case, a stone retrieval basket was required due to the difficult angle when accessing the inferior calyx of the upper moiety. The basket was 2.4 Fr, which took up approximately 14.5% of the cross-sectional area of the working channel and reduced irrigation flow speed. Without it, drainage of the irrigation fluid remained adequate." Page 5 lines 167-171

Reviewer E

I read with interest your manuscript titled "First Use and Evaluation of a New 6.3 Fr Disposable Flexible Ureteroscope for Stone Management in Duplex Kidney: A Case Report." This case

report is well-written and adheres to the CARE Guidelines, which I greatly appreciate. I would like to offer some suggestions to further improve the overall quality of the manuscript, and I hope the Authors will find my feedback constructive.

Line 20 and Line 61: The term "renal stone" is too generic. The Authors should specify the exact position of the stone (e.g., lower or upper calix, pelvis, and upper or lower system). The position of the stone critically impacts the ease of lithotripsy (lower caliceal stones are more difficult to manage than upper ones, as well as stones in the lower system compared to the upper one).
Reply: Thank you for pointing this out. We agree with your statement and have detailed the location of the stones, size, and density in the report. The patient had a ureteric stone (8 × 7 mm) located at the ureter connected to the left moiety and two renal stones (6 × 5 mm and 5 × 3 mm, respectively) located at the middle and inferior calyces of the upper moiety.
Changes in the text: "Computed tomography (CT) identified duplication of the left kidney, with a proximal ureteric stone (8 × 7 mm; 795 Hounsfield units [HU]) and mild lower moiety hydronephrosis with suspected ureteritis, an upper moiety stone at the middle calyx (6 × 5 mm; 780 HU) and inferior calyx (5 × 3 mm; 692 HU) (Figure 1)." Page 4 lines 128-131.

Lines 44-47: This entire section could be deleted, as it repeats information found in the subsequent section.
Reply: Thank you for your suggestion. The section is deleted accordingly.
Changes in the text: "In this study, we report a successful case of dd-flexible ureteroscopic lithotripsy for complete duplex kidney with concomitant ureteric and renal lithiasis using a novel 6.3 Fr scope. We further evaluate its strengths and weaknesses for stone retrieval procedures." Page 3 line 98 and page 4 lines 115-117.

Lines 60-61: The Authors mention performing a CT scan but omit the HU density of the stones, which is important information.
Reply: Thank you for pointing this out. We apologize for missing this detail. It has been added to the revised manuscript.
Changes in the text: "Computed tomography (CT) identified duplication of the left kidney, with a proximal ureteric stone (8 × 7 mm; 795 Hounsfield units [HU]) and mild lower moiety hydronephrosis with suspected ureteritis, an upper moiety stone at the middle calyx (6 × 5 mm; 780 HU) and inferior calyx (5 × 3 mm; 692 HU) (Figure 1)." Page 4 lines 128-131.

A critical piece of information is missing: Did the Authors perform pyelography before and after lithotripsy? Could they describe the intraoperative findings and share the images?
Reply: Thank you for your question. We did not perform pyelography during the procedure. However, we can share some critical intraoperative findings as shown in figure 3.
Changes in the text: none.

Line 92: Please delete the phrase "as far as known."
Reply: Thank you for your suggestion. We have rewritten the entire DISCUSSION section and this phrase has also been deleted.

Last suggestion:
The duplex collecting system may sometimes facilitate stone development due to the presence of UPJO in the lower district or vesico-ureteral reflux in the upper one. In children, this is a critical concern. Although PCNL has traditionally been the preferred option for stones >20 mm, recently RIRS has emerged as a viable option, thanks to ureteral access sheaths and pre-stenting, which allow the passage of 7.5 Ch flexible ureteroscopes even in preschool children. Your work describes a promising option for the management of urolithiasis in children. I suggest citing this work to highlight this aspect, which would broaden the readership and enhance the scientific merit of your study (Retrograde Intrarenal Surgery for Renal Stones: Is It a Safe and Effective Option in Preschool Children? J Pediatr Surg. 2024 Mar;59(3):407-411.

doi: 10.1016/j.jpedsurg.2023.10.056. Epub 2023 Oct 28. PMID: 37981541).

Reply: Thank you deeply for your suggestion. Indeed, this device may serve as a promising option for pediatric urological surgery. We have added this viewpoint into the revised DISCUSSION.

Changes in the text: "The duplex kidney has a variety of anatomic phenotypes and can lead to complications including pelvicalyceal dilatation, cortical scarring, vesicoureteral reflux, hydronephrosis, and ureteroceles [13]. Radiographic diagnosis of a duplex kidney can be easily missed or misdiagnosed due to limitations in relaying a complete diagnostic feature [14]. There is no study comparing the mean ureter diameter between duplex kidney and normal anatomy. However, stenosis and tortuosity can be anticipated. The management of urolithiasis in patients with duplex kidney is not clearly detailed in the EAU guideline for urolithiasis nor under pediatric urology. Retrograde intrarenal surgery is gradually preferred over percutaneous nephrolithotomy due to its less invasiveness [15]. FURS with holmium laser lithotripsy was a safe and feasible option [8]. Therefore, a 6.3 Fr scope would be a promising option for the management of urolithiasis in children without or without duplex kidney given that the average widest internal ureteral diameter is 3.8 mm [16]." Page 6 lines 192-202.

"The combination of a 6.3 Fr dd-FURS with suitable smaller-diameter adjuncts is a feasible endoscopic solution for stones associated with complex ureter anatomy. The immediate and short-term outcomes for this patient were favorable. However, this solitary case report may overestimate the benefits of the device and procedure. In order to fully elucidate the safety and efficacy of the 6.3 Fr scope and other devices, adaptation to the device and technique, further research within larger urolithiasis patient sample including children and adults ought to be conducted." Page 6 lines 210-213 and page 7 line 230-231.