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Can flexible ureteroscopy using flexible and navigable suction ureteral access sheath (FANS-UAS) minimize postoperative double J stent placement? Results from a propensity score-matched analysis of 540 patients of the European Association of Urology Section of Endourology and global FANS collaborative study group

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Purpose: To evaluate whether using flexible and navigable suction ureteral access sheath can obviate insertion of double J stent and establish the safety of overnight ureteric catheter placement as alternative following flexible ureteroscopy for kidney stones.

Materials and Methods: Five hundred forty adults were prospectively enrolled across 25 centers (from April 2023 to January 2024). Patients were divided into group 1 (overnight ureteric catheter), and group 2 (double J stent). Surgeons could choose either modality as per their discretion. One-to-one propensity score-matching for age, sex, pre-stenting, Hounsfield units, stone volume and location was performed. Thirty-day computed tomography scan was done to estimate stone-free status.

Results: After matching, 120 patients were included in each group. Group 1 had significantly shorter lasing, ureteroscopy, surgical time. Median day 1 loin pain score was similar (1 [1, 2] in both groups). Median postoperative stay was shorter in group 1 (0 days [0, 1] vs. 1 day [0, 2], p<0.001). One patient in group 2 required a blood transfusion. Incidence of fever was similar (5.0% vs. 0.8%). Loin/abdominal pain requiring medication occurred in one patient in group 2. Stent-related symptoms occurred in 2 patients in group 1. Three patients (2.5%) in group 1 and 2 patients (1.7%) in group 2 required readmission. Thirty-day stone-free status was higher in group 1 patients (79.2% vs. 56.7%).

Conclusions: In selected patients after thorough inspection to ensure no injury or residual fragments remain, placing an overnight ureteric catheter can be a safe alternative to a double J stent.

Keywords: Kidney calculi; Lithotripsy, laser; Suction; Ureteroscopy

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INTRODUCTION

Flexible ureteroscopy (F-URS) is currently considered a first-line treatment option for kidney stones up to 2 cm in diameter [1,2]. Guidelines do not mandate routine preoperative or postoperative stenting. The decision to place a postoperative double J stent should balance necessity and surgical practice, affecting operative outcomes and patient quality of life. According to international guidelines, stents are recommended after ureteroscopy in patients at increased risk of complications, such as those with ureteral trauma and perforation, residual fragments (RFs), bleeding, solitary kidney, or pregnancy [1,2].

Stent-related symptoms, including lower urinary tract symptoms, hematuria, pain, and sexual dysfunction [3], undoubtedly harm the quality of life of many patients [4]. Forgotten stents present a significant challenge and it is the responsibility of the operating surgeon to address this issue, as managing encrusted forgotten stents is often more complex than the initial endoscopic intervention [5].

The use of suction in F-URS improves stone-free rate (SFR), reduces the risk of infectious complications, and shortens hospital stay thanks to the ability to reduce the intrarenal pressure and temperature and aspiration of dust, debris, and even small stone fragments [6,7], as compared to conventional ureteroscopy [8]. In particular, the use of flexible and navigable suction ureteral access sheath (FANS-UAS) during F-URS showed excellent imaging and clinical perioperative outcomes just 24 hours after surgery [9].

As the use of FANS-UAS has shown excellent SFR, perioperative, and postoperative outcomes both within 24 hours [9] and at 30 days [10], this study aims to assess if the use of this can obviate the unnecessary postoperative double J stent placement and if an overnight ureteric catheter placement is a feasible and safe alternative.

MATERIALS AND METHODS

This prospective study included adult patients with kidney stones who were considered suitable for F-URS using a FANS-UAS, as decided by the treating urologist. From April 2023 to January 2024, patients from 25 centers were enrolled. Institutional review board approval was obtained by the principal investigator (Asian Institute of Nephro-Urology, Hyderabad, India; approval number: AINU-EC/28/2023). Informed consent was obtained by all subjects when they were enrolled. Inclusion criteria were adult patients with normal renal anatomy who were deemed suitable to undergo F-URS using FANS-UAS for single or multiple renal stones in any location within the collecting system. Exclusion criteria included pediatric patients, anatomical renal abnormalities concomitant lithotripsy for ureteral stone, and patients with lacking data.

All patients had a preoperative non-contrast computed tomography (CT) scan to assess stone(s) characteristics and a postoperative CT to evaluate RFs within 30 days of the procedure. The stone volume was calculated from the CT scan using the bone window with the stone diameter measured along three axes and the ellipsoid formula applied to determine the volume (length×width×depth×π×0.167).

The choice of laser for lithotripsy and perioperative decisions such as pre-stenting and postoperative exit strategy was at the respective surgeons' discretion based on their preference. No specific conditions were outlined to advise which patients must have a double J stent or which are chosen for placement of a ureteric catheter. All patients who had a ureteric catheter had the same removed anytime between 12–24 hours postoperatively depending on the surgeon's preference. Imaging or specific laboratory testing was not mandated before ureteric catheter removal. Hence, patients were divided into two groups. Group 1 included patients who had an overnight 5 Fr open-ended ureteric catheter only (i.e., discharged without a tube), whilst group 2 encompassed patients in whom a double J stent was inserted and removed according to surgeons' choice.

Lithotripsy was carried out using Holmium laser (Lumenis Pulse 100H or Pulse 120H with MOSES Technology; Boston Scientific), pulsed thulium:YAG laser (Dornier Thulio, 100 W; Dornier MedTech), or thulium fiber laser (TFL; Fibre dust [Quanta System] or Soltive [Olympus] or Urolase SP 60W [IPG Photonics]). The following FANS-UAS were employed according to each center availability: ClearPetra (Well Lead Medical); Elephant II second-generation FANS-UAS (Zhejiang YiGao Medical Technology), and FANS-UAS Innovex Medical.

Anticoagulants or antiplatelets were stopped before surgery and restarted case-by-case. One-dose antibiotic prophylaxis was given in all cases at induction per local protocols. Surgical time was defined as the time from the start of cystoscopy to exit strategy insertion of ureteral catheter of double J stent. Ureteroscopy time was considered as the time from FANS-UAS placement to its removal. Lasing time was the actual time recorded during lithotripsy as obtained from the machine display. Loin pain was assessed on postoperative day 1 and scored using the standard 10-point visual analog scale, with 1 as the lowest score. Thirty-day postoperative complications were graded according to the modified Clavien system [11]. Ureteral wall injuries were graded according to

the Traxer and Thomas classification [12].

Stone-free status was graded by CT scan as: Grade A, zero RF; Grade B, single RF not more than 2 mm in maximum diameter; Grade C, single RF 2.1–4 mm in maximum diameter; and Grade D, single or multiple RFs >4 mm in maximum diameter.

Continuous variables were described using median and (25th–75th quartiles), while categorical variables were described using absolute numbers and percentages. Patient demographics, perioperative parameters, and 30-day outcomes were compared using the χ^2 test or Fisher exact test for categorical parameters and the Mann–Whitney U test for continuous variables.

Propensity score matching (PSM) was used to reduce confounding in the statistical comparisons. Propensity scores were calculated using a logistic regression model, and one-to-one nearest-neighbor matching for age, sex, pre-stenting, stone volume, stone location, and Hounsfield units (HU). To ensure optimal matching of covariates, the caliper width was started at 0.2 [13,14] and decreased in increments of 0.01 until the absolute standardized mean difference (ASMD) for all covariates was <0.1 [13], which was reached adequately at a caliper width of 0.2. All statistical comparisons were then repeated for the PSM cohort like the overall cohort. All statistical analyses were performed using R Statistical language, version 4.3.0 (R Foundation for Statistical Computing) with $p<0.05$ indicating statistical significance.

RESULTS

Overall, 540 patients were included in the analysis, 120 in group 1 and 420 in group 2. Table 1 shows baseline characteristics before and after matching. For the unmatched cohort, there was a significantly higher proportion of pre-stented patients in group 1 (75.0% vs. 59.5%, ASMD 0.33). Median HU was significantly different between the groups (1,100 [1,000, 1,212] in group 1 vs. 1,100 [880, 1,252] in group 2, ASMD 0.21). Median stone volume was significantly larger in group 2 patients (1,408 mm^3 [815, 2,154] vs. 1,320 mm^3 [709, 1,713], ASMD 0.29). The stone location also differed significantly. After matching, 120 patients from each group were included. Age, sex, pre-stented, stone volume, stone location, HU, and comorbidities, except for hypertension, were similar in the matched cohorts (all covariates were matched to an ASMD of <0.1) (Table 1).

Table 2 shows the intraoperative characteristics of unmatched and matched populations.

In the matched population, there was no difference in the size of deployed sheaths, whilst there was a significant difference in the type of laser used. Disposable scopes were more prevalent in group 1 (59.2% vs. 32.5%, $p<0.001$). Median lasing, ureteroscopy, and surgical time were significantly longer in group 2 patients. Five patients (4.2%) in group 1 had a grade 1 ureteral injury due to the sheath insertion and none in group 2. In the latter, there was 1 case (0.8%) of grade 2 ureteral injury and none in group 1.

Table 3 shows postoperative outcomes. In the matched cohort, there was no difference in median day 1 loin pain score (1 [1, 2] vs. 1 [1, 2], $p=0.58$). Median postoperative stay was significantly shorter in group 1 (0 days [0, 1] vs. 1 day [0, 2], $p<0.001$). Regarding complications, there was no case of sepsis in both groups (Clavien grade 4). One patient (0.8%) in group 2 required a blood transfusion due to preexisting medical conditions (Clavien grade 2). The incidence of fever requiring antibiotics was similar (5.0% in group 1 vs. 0.8% in group 2, $p=0.15$). After discharge, there were 3 patients (2.5%) in group 1 and 2 patients (1.7%) in group 2 requiring admission to the Accident & Emergency department (all complications were Clavien grade 2).

Thirty-day SFR was significantly different between the groups ($p=0.01$) with a higher proportion of Grade A stone-free status in group 1 patients (79.2% vs. 56.7%). Among patients with RFs, 2 patients (1.7%) in group 1 and 6 patients (5.0%) in group 2 had an ancillary treatment with F-URS ($p=0.28$).

DISCUSSION

Post-ureteroscopy guidelines suggest double J stent insertion for ureteral trauma, RFs, hematuria, ureteral perforation, and solitary kidney. If the procedure is uncomplicated, stents offer no benefits. As the actual definition of uncomplicated ureteroscopy is controversial [15], practicing urologists continue to use postoperative stents either out of fear of encountering complications due to drainage issues or merely out of habit [16].

A recent survey among UK urologists and members of the Endourological Society showed that 92% of urologists used some form of postoperative ureteric drainage after uncomplicated ureteroscopy, primarily due to concerns about postoperative ureteric obstruction or facilitating the passage of RFs with a median preferred duration for ureteric drainage of 5 days [17]. Another international survey demonstrated significant variability in practice, focusing on the comparison of stenting patterns between US and non-US practices [18]. The findings indicated that frequent stent placement for renal stones was more prevalent among US respondents compared to those outside the US (81.2% vs.

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Table 1. Baseline and operative characteristics

Characteristic	Overall			Matched population		
	Group 1 (n=120)	Group 2 (n=420)	ASMD	Group 1 (n=120)	Group 2 (n=120)	ASMD
Age (y)	52 [29, 61]	49 [36, 61]	0.05	52 [29, 61]	46.5 [36, 60]	0.05
Sex, male	64 (53.3)	239 (56.9)	0.07	64 (53.3)	60 (50.0)	0.07
Diabetes	26 (21.7)	108 (25.7)	0.1	26 (21.7)	33 (27.5)	0.13
Hypertension	36 (30.0)	162 (38.6)	0.19	38 (31.7)	50 (41.7)	0.25*
Ischemic heart disease	11 (9.2)	27 (6.4)	0.11	11 (9.2)	8 (6.7)	0.09
Body mass index (kg/m^2)	27 [25, 29]	26 [24, 30]	0.07	27 [25, 29]	26 [23, 29]	0.12
Positive preoperative urine culture	14 (11.7)	87 (20.7)	0.25*	14 (11.7)	20 (16.7)	0.14
Prestented	90 (75.0)	250 (59.5)	0.33*	90 (75.0)	91 (75.8)	0.02
Hounsfield units	1,100 [1,000, 1,212]	1,100 [880, 1,252]	0.21*	1,100 [1,000, 1,212]	1,110 [943, 1,281]	0.02
Stone diameter			0.52*			0.35
<1 cm	26 (21.7)	96 (22.9)		26 (21.7)	31 (25.8)	
1.1–2 cm	88 (73.3)	234 (55.7)		88 (73.3)	72 (60.0)	
>2 cm	6 (5.0)	90 (21.4)		6 (5.0)	17 (14.2)	
Stone volume (mm^3)	1,320 [709, 1,713]	1,408 [815, 2,154]	0.29*	1,320 [709, 1,713]	1,293 [759, 1,540]	0.03
Stone location			0.38*			0.06
Multiple locations	0 (0.0)	21 (5.0)		0 (0.0)	0 (0.0)	
Upper pole	28 (23.3)	108 (25.7)		28 (23.3)	27 (22.5)	
Middle pole/interpolar	61 (50.8)	163 (38.8)		61 (50.8)	59 (49.2)	
Lower pole	31 (25.8)	128 (30.5)		31 (25.8)	34 (28.3)	

Values are presented as median [interquartile range] or number (%).
Group 1: overnight ureteral catheter. Group 2: stented patients.
ASMD, absolute standardized mean difference.
*p<0.05.

Table 2. Operative characteristics

Characteristic	Overall			Matched population		
	Group 1 (n=120)	Group 2 (n=420)	p-value	Group 1 (n=120)	Group 2 (n=120)	p-value
General anesthesia	94 (78.3)	323 (76.9)	0.84	94 (78.3)	90 (75.0)	0.65
Sheath size (Fr)			0.98			0.78
12/14	27 (22.5)	98 (23.3)		27 (22.5)	23 (19.2)	
11/13	41 (34.2)	144 (34.3)		41 (34.2)	45 (37.5)	
10/12	52 (43.3)	178 (42.4)		52 (43.3)	52 (43.3)	
Sheath brand			<0.001*			<0.001*
Clearpetra	53 (44.2)	238 (56.7)		53 (44.2)	80 (66.7)	
Innovex	34 (28.3)	25 (6.0)		34 (28.3)	2 (1.7)	
Elephant	29 (24.2)	126 (30.0)		29 (24.2)	32 (26.7)	
Other	4 (3.3)	31 (7.4)		4 (3.3)	6 (5.0)	
Laser			0.01*			0.01*
Holmium	14 (11.7)	81 (19.3)		14 (11.7)	25 (20.8)	
Holmium+Moses	15 (12.5)	77 (18.3)		15 (12.5)	22 (18.3)	
Thulium fiber laser	41 (34.2)	80 (19.1)		41 (34.2)	19 (15.8)	
Pulsed thulium:YAG laser	50 (41.7)	182 (43.3)		50 (41.7)	54 (45.0)	
Disposable scope	71 (59.2)	141 (33.6)	<0.001*	71 (59.2)	39 (32.5)	<0.001*
Most used dusting settings (J/Hz)	0.4/25	0.4/25		0.4/25	0.4/25	
Most used popcorning settings (J/Hz)	1.0/15	0.8/18		1.0/15	1.0/15	
Lasing time (min)	11 [9, 15]	18 [12, 28]	<0.001*	11 [9, 15]	17 [10, 25]	<0.001*
Ureteroscopy time (min)	26 [20, 35]	35 [26, 55]	<0.001*	26 [20, 35]	32 [25, 47]	<0.001*
Total operation time (min)	41.5 [33, 46]	49.5 [38, 67]	<0.001*	41.5 [33, 46]	45 [35, 62]	0.01*
Lithotripsy modality			<0.001*			<0.001*
Dusting	64 (53.3)	153 (36.4)		64 (53.3)	47 (39.2)	
Popcorning	13 (10.8)	26 (6.2)		13 (10.8)	2 (1.7)	
Combination	43 (35.8)	241 (57.4)		43 (35.8)	71 (59.2)	
Basketing to aid stone repositioning	1 (0.8)	61 (14.5)	<0.001*	1 (0.8)	18 (15.0)	<0.001*
Sheath change	0 (0.0)	8 (1.9)	0.27	0 (0.0)	1 (0.8)	>0.999
Sheath able to access all of kidney	115 (95.8)	361 (86.0)	0.01*	115 (95.8)	110 (91.7)	0.29
Suction working well	120 (100.0)	407 (96.9)	0.11	120 (100.0)	119 (99.2)	>0.999
Bleeding obscuring vision	8 (6.7)	25 (6.0)	0.94	8 (6.7)	4 (3.3)	0.37
Case abandoned	0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)	
Ureteric injury	5 (4.2)	7 (1.7)	0.2	5 (4.2)	1 (0.8)	0.21
Traxer grade 1	5 (4.2)	2 (0.5)		5 (4.2)	0 (0.0)	
Traxer grade 2	0 (0.0)	5 (1.2)		0 (0.0)	1 (0.8)	
PCS injury	0 (0.0)	5 (1.2)	0.51	0 (0.0)	1 (0.8)	>0.999

Values are presented as number (%) or median [interquartile range].
Group 1: overnight ureteral catheter. Group 2: stented patients.
PCS, pelvic caliceal system.
*p<0.05.

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Table 3. Postoperative outcomes

Complication	Overall			Matched population		
	Group 1 (n=120)	Group 2 (n=420)	p-value	Group 1 (n=120)	Group 2 (n=120)	p-value
Fever requiring antibiotics (Clavien 2)	6 (5.0)	10 (2.4)	0.29	6 (5.0)	1 (0.8)	0.15
Sepsis requiring intensive care admission (Clavien 4)	0 (0.0)	0 (0.0)		0 (0.0)	0 (0.0)	
Postoperative blood transfusion for anaemia (Clavien 2)	0 (0.0)	1 (0.2)	>0.999	0 (0.0)	1 (0.8)	>0.999
Loin pain score (VAS)	1 [1, 2]	1 [1, 2]	0.99	1 [1, 2]	1 [1, 2]	0.58
Hospital stay (d)	0 [0, 1]	1 [0, 2]	<0.001*	0 [0, 1]	1 [0, 2]	<0.001*
Accident & emergency admission	3 (2.5)	7 (1.7)	0.83	3 (2.5)	2 (1.7)	>0.999
Urinary tract infection requiring antibiotics (Clavien grade 2)	1	5		1	1	
Stent-related LUTS requiring medication (Clavien grade 2)	2	0		2	0	
Loin/abdominal pain requiring medication (Clavien grade 2)	0	2		0	1	
Stone-free status on 30-day CT scan			<0.001*			0.01*
Grade A	95 (79.2)	230 (54.8)		95 (79.2)	68 (56.7)	
Grade B	23 (19.2)	152 (36.2)		23 (19.2)	40 (33.3)	
Grade C	2 (1.7)	31 (7.4)		2 (1.7)	11 (9.2)	
Grade D	0 (0.0)	7 (1.7)		0 (0.0)	1 (0.8)	
Reintervention for stone	2 (1.7)	27 (6.4)	0.07	2 (1.7)	6 (5.0)	0.28

Values are presented as number (%), median [interquartile range], or number only.
Group 1: overnight ureteral catheter. Group 2: stented patients.
VAS, visual analog scale; LUTS, lower urinary tract symptoms; CT, computed tomography.

65.5%).

The latest Cochrane review on randomized controlled trials comparing stented vs. unstented patients undergoing uncomplicated ureteroscopy showed that stenting may slightly reduce unplanned return visits, even if evidence certainty was low [19]. Yet, to prevent complications, the placement of an overnight ureteric catheter is as safe as a double J stent placement [20]. In our study, we found that irrespective of the exit strategy used, the incidence of unplanned visits was low and similar in the matched groups. This could have 2 plausible explanations. Firstly, as surgeons effectively inspected all the calyces, and diligently removed all dust, fragments, and debris, they were confident of not leaving RF(s) behind and in the absence of perioperative radiological evidence of pelvicalyceal or ureteral injury, a decision to only place a ureteric catheter was perhaps the logical choice. This correlated with higher grade A and B SFR and only low-grade complications within 30 days post-surgery. Additionally, suction lowers intrarenal pressure, reducing postoperative infective complications, with FANS-UAS performing better than other suction sheaths and standard sheaths [21]. Cumulatively, surgeons who were consciously aware that the perioperative outcomes were good and expected that surgery would yield good postoperative outcomes considered it safe enough to avoid stent placement, and to just leave a temporary ureteric catheter overnight. Indeed, this is reflected in the absence of any sepsis in both groups and low rates of fever, negligible reintervention, and as importantly very small readmission rate for both groups. Importantly, no patient with a ureteric catheter had any reintervention for complications developed due to acute ureteral obstruction or urinary system infection needing stent drainage. This corroborates the findings of previously published studies investigating the safety of an overnight ureteric catheter after F-URS [20].

In our study, group 1 patients showed a higher use of dusting with TFL, leading to longer ureteroscopy and procedural times as surgeons ensured thorough inspection and aspiration of dust. This perhaps enables them to avoid stenting as they were more confident of not having repercussions of dealing with patient-related complications due to RFs or reintervention for same. The aforementioned hypothesis is to be validated with methods that individually establish if the technique of laser lithotripsy or type of laser energy may directly affect the need for postoperative stenting. However, discrepancies in ureteroscopy and total surgical time may stem from surgeon preferences, variations in laser types or lithotripsy modalities, or differences in sheath brands. Additionally, the impact of operative time on study outcomes should also be considered when taking a guarded decision on not placing a postoperative double J stent.

The present study is not devoid of limitations. First, the lack of randomization is the main reason why this study did not assess the safety of completely avoiding placing a stent after F-URS using FANS-UAS. However, the propensity score allowed us to adjust selection bias related to the different patient baseline characteristics and helped us to understand in which patients an overnight ureteric catheter was as safe as a traditional double J stent. Yet, the decision to use an overnight ureteric catheter or double J stent was left to the surgeon's preference, which introduces practice variation and bias. Nevertheless, we can infer from our results that for patients in whom surgeons used dusting and aspiration with careful inspection of the entire collecting system ensuring complete removal of dust and fragments combined with visual and intraoperative pyelogram showing no injury, a ureteric catheter can be safely placed irrespective of sheath size, stone size and stone location or heterogeneity. Perhaps a randomized study comparing FANS-UAS and conventional UAS with the aim of minimizing postoperative stenting is a good way to validate our findings. Second, the use of lasers, sheath brand, and size, type, and duration of stenting were not standardized, and this could have influenced the study results. Third, we acknowledge that these are normal kidneys anatomically and we cannot extrapolate this to any renal anomaly until validated. Fourth, surgeons involved in this study had prior experience of using FANS-UAS and had sufficient clinical and procedural experience to self-decide if they would or would not consider stent placement. We did not ask if the use of FANS-UAS changed their typical practice of F-URS. This is, however, a very useful yardstick to analyze how much more of a game changer can the use of FANS-UAS become for renal stone management. For now, we agree and would still advocate that when in doubt, leaving a stent as safety is necessary. Yet, the findings of our study reflect that the corollary too is true that in those cases where surgeons are sure that the procedure went well, there is no absolute necessity to place a postoperative double J ureteral stent. Finally, surgeons should remember that a stent itself is a boon in the right indication and a bane if unnecessarily used. As previously proven for patients' quality of life, ureteroscopy experience, and pain scores without stents are much better and reasonable enough to avoid them if possible [19].

Last but not least, ideally, we may consider a delayed contrast imaging study to ascertain if there is any compromise between the two groups concerning the development of late complications even if a recent study showed that only 1

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case (0.3%) out of 310 patients developed a ureteral stricture 3 months after F-URS using FANS-UAS [22].

CONCLUSIONS

Our findings provide the following key insights into clinical practice when performing F-URS with FANS-UAS in anatomically normal kidneys. If surgeons effectively inspect all calyces, remove all dust fragments and debris, and are confident that no RF remains and in the absence of intraoperative radiological of pelvicalyceal or ureteral injury, just an overnight ureteric catheter can be placed as a safe alternative to a double J stent.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

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AUTHORS' CONTRIBUTIONS

Research conception and design: Vineet Gauhar and Daniele Castellani. Data acquisition: Vineet Gauhar, Daniele Castellani, Steffi Kar Kei Yuen, Chin Tiong Heng, Mohamed Elshazly, and Karl Tan. Statistical analysis: Khi Yung Fong. Data analysis and interpretation: Vineet Gauhar, Daniele Castellani, Steffi Kar Kei Yuen, Chin Tiong Heng, Mohamed Elshazly, and Karl Tan. Drafting of the manuscript: Daniele Castellani and Vineet Gauhar. Critical revision of the manuscript: Thomas R. W. Herrmann, Olivier Traxer, and Bhaskar Kumar Somani. Administrative, technical, or material support: Vineet Gauhar. Supervision: Thomas R. W. Herrmann, Olivier Traxer, and Bhaskar Kumar Somani. Approval of the final manuscript: all the authors.

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