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AUANews

Tele-Urology Enhances Access and Care of Hematuria Referrals



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After the 2012 revision of the AUA guidelines for evaluation of asymptomatic microhematuria (MH), the demand for hematuria evaluation increased significantly. The new guidelines redefined MH as 3 or more red blood cells per high power field from a single urine specimen,¹ in contrast to the prior guidelines that require 2 positive urinalyses, collected at different points.

To address the increase in workload we implemented a program using telephone appointments as an alternative to conventional clinic visits for hematuria consults. This new tele-urology pathway was monitored as part of a quality improvement project that included a survey of patient attitudes and satisfaction with the program.

A total of 150 patients participated in the survey. Processing the hematuria consult was efficient with 137 patients (91.3%) completing their initial tele-urology encounter within 30 days. Similarly, the majority of patients (95.3%, 143) underwent lower tract cystoscopy evaluation thereafter within 30 days after their tele-urology

interview (table 1). Notably, all of the patients who were not evaluated within 30 days of the consult request had declined or missed their tele-urology appointment (8.7%, 13) and/or cystoscopy appointment (4.7%, 7).

A third of the patients had their upper tract evaluation imaging completed by their primary care providers before the consult request. Of the remaining patients the majority (78%) completed their upper tract radiologic evaluation within 30 days after the initial tele-urology evaluation. A potential etiology for hematuria was noted on upper tract imaging in 22 patients (15% of cohort), including upper tract urolithiasis (11), solid renal mass (1), bladder tumor (6) and bladder calculi (4).

Of the 150 subjects evaluated for hematuria 6 (4.0%) were diagnosed with bladder tumors on cystoscopy. Subsequent resection revealed 2 cases of low grade pTa urothelial carcinoma (UC), 2 cases of high grade pTa UC and 2 cases of high grade pT1 UC. Cystoscopic evaluation in the remaining majority (96.0%, 144) were negative or demonstrated other benign conditions (eg prostate enlargement, radiation cystitis etc).

Patients reported high overall acceptance and satisfaction levels with the telephone evaluation, where

Table 1. Time to evaluation and completion of hematuria evaluation

	From initial consultation to tele-urology encounter	From tele-urology encounter to cystoscopy	From tele-urology encounter to upper tract evaluation*
	n (%)	n (%)	n (%)
≤ 30 days			
1-7 days	37 (24.7)	37 (24.7)	8 (8.0)
8-14 days	61 (40.7)	24 (16.0)	17 (17.0)
15-21 days	33 (22.0)	43 (28.7)	22 (22.0)
22-30 days	6 (4.0)	39 (26.0)	31 (31.0)
TOTAL	137 (91.3)	143 (95.3)	78 (78.0)
Median (range)	12.0 (0-30)	16.0 (0-30)	17.0 (0-30)
> 30 days			
TOTAL	13 (8.7)	7 (4.7)	22 (22.0)
Median (range)	35.0 (31-108)	44.0 (37-79)	47.0 (31-92)

*Among 100 patients who did not have upper tract imaging before consultation.

Table 2. Patient satisfaction and attitudes related to tele-urology experience

Domain	Mean Score (SD)	Range	Score Ranges		
			1 – 4 (n, %)	5 – 6 (n, %)	7 – 10 (n, %)
Overall satisfaction	9.2 (1.22)	5 – 10	0 (0.0%)	7 (4.7%)	143 (95.3%)
Efficiency	9.1 (1.36)	4 – 10	1 (0.7%)	9 (6.0%)	140 (93.3%)
Convenience	9.3 (1.22)	4 – 10	1 (0.7%)	6 (4.0%)	143 (95.3%)
Personal/friendly	9.6 (0.86)	6 – 10	0 (0.0%)	2 (1.3%)	148 (98.7%)
Quality of care	9.3 (1.13)	5 – 10	0 (0.0%)	4 (2.7%)	146 (97.3%)
Communication	9.4 (1.08)	5 – 10	0 (0.0%)	4 (2.7%)	146 (97.3%)
Privacy	9.5 (0.97)	6 – 10	0 (0.0%)	3 (2.0%)	147 (98.0%)
Professionalism	9.6 (0.81)	6 – 10	0 (0.0%)	1 (0.7%)	149 (99.3%)

mean scores exceeded 9.1 out of 10 for all domains assessed. These included overall satisfaction, efficiency, convenience, friendliness, quality of care, comprehensibility, privacy protection and professionalism of the interviewing provider (table 2).

When presented with a choice, the majority of patients (98.0%, 147) preferred telephone encounters to face-to-face clinic appointments for the initial hematuria evaluation. The entire cohort reported that they would choose tele-urology appointments in the future and would

recommend similar appointments for family members and friends, if indicated. Three patients (2.0%) preferred conventional face-to-face clinic evaluations primarily due to perceived privacy issues related with telephone communications.

There were multiple negative and positive factors that influenced patient attitudes to the tele-urology program (table 3). Of the 147 patients preferring telephone encounters 142 (96.6%) reported that barriers related

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Table 3. Responses to patient survey after tele-urology encounters

Negative transportation-related factors	n	%
Difficulty with Parking	98	66.7
Difficulty with Traffic	91	61.9
Excessive travel distance	87	59.2
Excessive costs	47	32.0
Need for family/friend for transportation	46	31.3
Need for other transportation arrangements	23	15.6
Need for driving self	15	10.2
Any transportation-related factor	142	96.6
Negative clinical operation-related factors	n	%
Excessive time to be seen by provider	78	52.0
Excessive time to be checked-in	52	34.7
Excessive time to obtain lab work	31	20.7
Excessive time to be checked-out	30	20.0
Excessive time for filling out forms	29	19.3
Excessive time for radiologic studies	26	17.3
Any clinical operations-related factor	96	64
Positive telephone evaluation-related factors	n	%
Provider not rushed	109	72.7
Provider gave satisfactory explanation	108	72.0
Provider addressed all questions	105	70.0
Provider focused on evaluation	98	65.3
Provider was not interrupted	97	64.7
Any evaluation-related factor	130	86.7



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to transportation influence their preferences toward the tele-urology program. Most common factors included difficulties finding parking (66.7%), traffic congestion (61.9%) and long travel distance/time (59.2%).

Patient preference was also impacted by a variety of outpatient clinic operational factors. A total of 96 patients (64.0%) reported at least 1 issue related to clinic operations that influenced their preference for telephone interviews. The most frequently reported logistical factors related to clinic visits included delays in checking in (34.7%) or checking out (20.0%), and filling out forms (19.3%).

Finally, the survey revealed that patients favored telephone clinics due to the high quality and personal attention they perceived during the evaluation. A majority of subjects (86.7%, 130) reported at least 1 favorable factor related to the interview.

In summary, there were 3 principal findings. 1) This program ensured that nearly all hematuria evaluations

were completed promptly within a 30-day window, and that exceptions to this rule were related to patient noncompliance with appointments. 2) Patients were exceedingly satisfied with the program. Veterans reported a clear preference for telephone based interactions for hematuria evaluations compared to face-to-face clinic visits. 3) We identified multiple factors related to patient satisfaction with tele-medicine (and dissatisfaction with clinic visits). For the most part the negative factors were external and/or at a hospital level outside the control of the individual provider.

With the growing numbers of digitally savvy patients, convenience and quality of life are increasingly important priorities. Patients are increasingly reluctant to sacrifice time driving in traffic, parking and waiting to be seen for a face-to-face interaction that can potentially be accomplished through a telephone encounter. Such desires and priorities of patients were reflected in the results of our survey. The efficiency and high acceptance and satisfaction rates with our tele-urology clinic are similar to those of other telemedicine reports in the literature.²⁻⁴ In a recent

report the majority of patients, particularly those traveling longer distances and incurring greater expenses, were willing to participate in video visits for urological care.³

In addition, there are significant intangible benefits related to telephone clinics. Patients are more likely to accept and be available for their telephone appointments because of the convenience of not having to travel to clinic, park, check in and out, wait etc. Such a patient friendly process results in lower no-show and missed opportunity rates. When a patient misses his/her telephone clinic appointment, the time slot can be used to evaluate another patient. In contrast, a no-show in conventional face-to-face clinic often results in a wasted appointment slot.

Furthermore, telephone appointments provide scheduling flexibility that allows providers to better manage their workload with the choice to work remotely from a different office and/or after hours. The opportunity to work remotely allows for efficiency, and decreases expenditures and inconveniences related to support staff availability, overtime and commuting to work. This translates into

improvement in productivity, job satisfaction and staff retention.

The use of telephone clinics for the evaluation of selected urological conditions is a win-win strategy for patients, providers, hospitals and clinics, and third party payers. Considering the current health care economics, telephone clinics provide a pathway that improves access, expedites health care delivery and decreases cost.

Awarded best poster at annual meeting of the American Urological Association, New Orleans, Louisiana, May 15-19, 2015. ♦

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