Peer Review File

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Reviewer A

I commend the authors for reviewing their experience of genitourinary trauma, especially through a unique lens of changes during the pandemic.

I do think there may be a few things that can strengthen this paper further or that need to be clarified, and I've listed them here:

1. Do the authors have a clear hypothesis? it appears they observed an increase in GU trauma and then their review/analysis confirmed this.

Yes, we hypothesized that GU trauma would be worse during the pandemic and that follow up on these injuries would not be as consistent as pre-Covid rates. (see Page 4, line 5)

2. more of a comment than question: the years of potential life lost YPLL metric is a nice way to frame this observation. Easily lost when we tend to practice inside the urologic silo.

Thank you for the nice comment, we greatly appreciate it!

3. Did the demographic breakdown of patients align with the population differentials of the general Louisville population?

Yes. Louisville is 22% black, but gun violence disproportionately impacts black people as in most all major cities. This aligns with the trends we saw in our research. Black people experienced higher rates of GU trauma than any other race within our research population.

4. Why are there 5 patients who are reported that did not sustain any injury to the GU tract. Weren't the inclusion criteria specific to pts who had urologic GSW injury?

All analyses were redone excluding these 5 patients. No notable differences which would influence the results, discussion and conclusion were found between the analyses with the 5 patients included versus the analyses where they were excluded. The manuscript text and tables were changed accordingly to reflect the analysis where the 5 patients were excluded.

5. Do the authors care to speculate any further on the relationships they've found to be statistically significant - is this a correlation or any identifiable cause/effect as far as gun violence in general or even increase specifically in GU injury frequency? Was there correlation or causation?

We cannot determine definitive cause from our research, but we can say that the increase in gunshot wounds is likely multifactorial due to the many root causes underlying this issue. In another research study done at our institution the increased use of high capacity magazines and fully automatic rifles is discussed. The combination of those two things leads to many more shots fired and therefore more

opportunity for the GU system to be injured. Interestingly, we observed that although GU injuries increased dramatically overall mortality did not.

6. I agree that follow-up in this cohort of patients is poor and challenging. Did the authors look at f/u by zipcode, similar to how they looked at initial injury demographic info?

We did consider it initially. However, due to the low number of patients within each zipcode we didn't feel like we would find any statistically significant data by looking at follow up through that lense.

7. Was urology consulted on all of the patients they identified, or were these patients all only retrospectively identified by Diagnosis code?

No, all the patients within the study were identified retrospectively via the Jefferson County trauma database.

8. Have the authors changed their practice based on their findings? Any specific method they've developed or employed to try and improve compliance with follow-up? or anything they do differently DURING initial consultation / injury management that might decrease risk of sequelae or improve chance of f/u?

Elective cases during this time were cancelled and focus was shifted to urgent oncological and emergency trauma procedures which wasn't unique to urology. Telehealth visits became more frequent in personal practice. Due to the delay in care during the height of the pandemic patients are experiencing symptoms for much longer before presenting for initial treatment.

9. Now that the pandemic (or at least the stay-at home measures of pandemic) has ostensibly passed, have the authors observed any reversion of injury patterns/frequency? do they plan to follow this up?

Despite the end of the pandemic the impact of COVID is still very evident. Louisville, KY saw a substantial increase in gun violence during 2020 that coincided with the COVID-19 pandemic. Around the country an increase in gun violence was experienced. It may be due to factors related to COVID such as stay at home orders and decreased access to mental health care, to name a few. These lingering effects of the pandemic are things that the entire healthcare community is still struggling to address. There is no plan to follow up at this time, but it is something we will keep in mind for future project opportunities.

Reviewer B

Thank you for submitting a well-written manuscript on the increase of gun-violence and the effect on GU injuries.

I have noted that trend in my own practice which is in a different state and I have a feeling that this might be happening across the country.

I applaud the authors that they studied this phenomenon and it would be interesting to see if this is the case nationwide and if some states/cities are more affected than others. I agree with the authors that a multi-institutional study or national database approach can be a future endeavor. It is interesting to see that the geographic area of the violence has changed and expanded, which really begs for tighter measures around gun acquisition and control, which unfortunately is a very political issue and really should be a public health safety concern no matter what political background.

It would be informative to know if there was a certain age or racial group in which the increase was more significant than for others. Could the authors look at the data on pre and post covid GSW and if their was a difference in demographics (gender/race) of the victims other than being from another zip code. Once you have that data, please change Table 1 to include two columns pre-COVID and Post-COVID and include the p-value as well.

Thank you for the kind words and critical thinking on our work. We hope that this table is what you had in mind and believe that it improves the overall quality of this study.

(Old version of table replaced with new one in manuscript (see Page 10)

Table 1. Patient characteristics by Covid time period

		Total [1425 days] N=117	Pre-Covid [760 days] N=39	During-Covid [665 days] N=78	
		Freq (%)	Freq (%)	Freq (%)	P-Value
Gender	Male	101 (86%)	38 (97%)	63 (81%)	0.013
	Female	16 (14%)	1 (3%)	15 (19%)	
		Mean	Mean	Mean	
Frequency of GSW's GU injuries occurring every ___ day		12.2	19.5	8.5	<0.001
		Freq (%)	Freq (%)	Freq (%)	
Race	Black/African American	84 (76%)	31 (84%)	53 (72%)	0.071
	White	26 (23%)	5 (13%)	21 (28%)	
	Hispanic	1 (1%)	1 (3%)	0 (0%)	
	Asian	0 (0%)	0 (0%)	0 (0%)	
	American Indian/Alaskan Native	0 (0%)	0 (0%)	0 (0%)	
	Native Hawaiian or Pacific Islander	0 (0%)	0 (0%)	0 (0%)	

	Missing	6	2	4	
Mortality			Freq (%)	Freq (%)	
	Patient Died	26 (22%)	5 (13%)	21 (27%)	0.084
	Patient Survived	91 (78%)	34 (87%)	57 (73%)	
Area of Louisville			Freq (%)	Freq (%)	
	West end	31 (32%)	16 (46%)	15 (24%)	0.029
	Other Areas	66 (68%)	19 (54%)	47 (76%)	
	Missing	20	4	16	
Age		Mean 29.1 (11.2)	Mean (SD) 31.0 (11.6)	Mean (SD) 28.2 (11.2)	0.204

Reviewer C

The authors present a review of GSW to the genitourinary tract before/after the COVID pandemic. The review is retrospective and compares a pre-covid time period to a during/post-covid time period. The authors found higher post-operative follow-up and a different geographic distribution of injuries during the per-COVID period.

1. Was there any difference in surgical management during the time periods (renal repair vs. radical nephrectomy)?

Based on data collected, renal repair was performed more often than nephrectomy in regard to gun related renal trauma. When looking at the data with this question in mind it appears that the decision to do repair versus a radical nephrectomy relates to the level of damage to the kidney.

2. Was the rate of consultation by the trauma team to the Urology service similar during the time periods?

Consultation practices to Urology at our specific institution didn't change during this time. However, it would be interesting to think about how kidney injuries are managed locally and across the country. Specifically, who cares for them, who should be consulted, and if vascular surgery should be involved in everything. A fantastic idea for a separate study.

3. Was there also a difference in elective urology cases at the same institution during the same time period?

During this time all elective procedures were halted at our institution.

4. Table 3 highlights an increase in the percentage of renal injuries during the pandemic - is there any explanation for this?

In another research study done at our institution the increased use of high capacity magazines and fully automatic rifles is discussed. The combination of those two things leads to many more shots fired and therefore more opportunity for the GU system to be injured.

5. Table 1,2,3 do not include statistical p-values.

Below is Table 3 where I include the P-Value. I added p-values to Table 1 above and table 2 does not lend itself to p-values since it is descriptive.

(Old version of table replaced with new one in manuscript (see Page 13)

Table 3. GU organs involved in patients presenting with GSW injuries to the GU tract pre-COVID and during COVID

	Pre-COVID	During COVID	
	Freq (%)	Freq (%)	P-Value
1 GU organ involved			0.457
Kidney	19 (49%)	53 (68%)	
Bladder	7 (18%)	10 (13%)	
Ureter	1 (3%)	3 (4%)	
Scrotum	1 (3%)	2 (3%)	
Urethra	1 (3%)	0 (0%)	
Penis	0 (0%)	1 (1%)	
Perineum	0 (0%)	1 (1%)	
>1 GU organ involved			
Ureter, kidney	0 (0%)	3 (4%)	
Bladder, ureter	2 (5%)	0 (0%)	
Testicle, scrotum	2 (5%)	0 (0%)	
Kidney, bladder	1 (3%)	0 (0%)	
Urethra, scrotum	1 (3%)	0 (0%)	
Bladder, scrotum	0 (0%)	1 (1%)	
Bilateral testicles	0 (0%)	1 (1%)	
Kidney, bladder, ureter	1 (3%)	0 (0%)	
Bladder, urethra, scrotum	1 (3%)	0 (0%)	
Scotum, penis, urethra	1 (3%)	0 (0%)	
Bilateral testicles, penis	0 (0%)	1 (1%)	
Urethra, ureter, kidney	0 (0%)	1 (1%)	
Penis, urethra, testicle, scrotum	1 (3%)	0 (0%)	
Ureter, kidney, bladder, urethra	0 (0%)	1 (1%)	

6. Does the research team think that decreased post-operative follow-up changes the overall clinical course of the patients following penetrating trauma?

- A study titled “Long-term renal outcomes in patients with traumatic renal injury after nephrectomy: A nationwide cohort study” concludes that emergent nephrectomy for renal trauma will not impose risk of future renal failure. In many of the penetrating trauma injuries

follow up is likely not necessary as it does not enhance overall outcomes. Patients are treated emergently and stabilized and do not benefit additionally from routine imaging and follow up.