Correspondence

Ultrasonography utilization in forearm fractures at the emergency department

Dear editor,

We have read the article by Auten et al. [1] published in American Journal of Emergency Medicine. In this article, it is concluded that ultrasonography accurately predicts adequacy of reduction with a high concordance between emergency medicine and radiology interpretations of post-reduction images.

In our experience, ultrasonography is a reliable method to determine fracture focus location and ease the administration of local anesthesia. We have also utilized this technique for fracture post-reduction control. However, due to interobserver variability, its application in clinical routine in the emergency department may be initially limited. Due to this, we believe that not only the availability of both diagnostic tests must be taken into account, but also the existence of trained personnel on its utilization. Otherwise, extrapolation of the results obtained in this study may be limited when trying to establish this diagnostic-therapeutic protocol in all emergency services.

Even so, we totally agree with the authors that the implementation of ultrasonography utilization can be useful in cases in which fluoroscopy is not available, or even relegating fluoroscopy to a second plane, with the aim of reducing X-ray irradiation to the patient and the health-care personnel.

Funding

Authors disclose no funding.

Declaration of Competing Interest

Authors declare no conflict of interest.

References

Sixty patients reported they do not dispose of excess medication (see Fig. 1). The most common disposal method was throwing away, with 26% of these individuals reporting they placed medications in ground coffee beans or kitty litter prior to throwing away (recommended for many medications by the FDA). The majority of patients (115; 65%) did not know where the nearest drug drop off location was, though most were willing to use one of these locations (99; 68%). Willingness was a function of distance though, as 57% would travel ≤5 miles and only 14% would travel >10 miles.

More than 1 in 3 reported not finishing an opioid prescription as intended (n = 61), and 1 in 5 had currently had excess opioids in the home (n = 34). Of those with excess opioids, 38% report retention for later use. More than 1 in 4 patients reported not finishing an antibiotic prescription as intended (n = 48), and 1 in 7 currently had excess antibiotics in the home (n = 25). Among individuals with excess antibiotics, 40% report retention for later use. A total of 39 patients (23%) flushed antibiotics down the toilet. Rates of medication use for a reason other than prescribed were higher for antibiotics (13%) than for opioids (8%).

Individuals on Medicare were more likely to flush medications (r = 0.19, p = 0.014), particularly antibiotics (r = 0.25, p = 0.001). Individuals without insurance were more likely to retain medications than insured individuals (r = 0.18, p = 0.014). White and older patients were more likely to have excess opioids than non-White and younger individuals (r = 0.26, p = 0.001; r = 0.26, p = 0.001).

This study demonstrated significant excess medication retention and improper disposal among ED patients. Proper medication disposal techniques are available [detailed by the FDA [7]], but ED patients are often unaware of these techniques, use techniques with potential negative outcomes, and/or retain unused medications. Retention holds particular risk, as medications can be misused by others in the house (e.g., partners, children) or, in the case of antibiotics, used later ineffectively, leading to antibiotic resistance. Our study, importantly, shows ED patients are willing to use proper disposal techniques, but many lack the requisite knowledge.

Potential avenues for intervention include editing ED after-visit summaries to discuss what to do with excess medication, whether due to non-adherence or by design. Many of these documents are lengthy and actionable information can be difficult to identify by ED patients [8]. More user-friendly after-visit summaries may decrease the problem of improper retention and disposal.

There are some limitations to this work. The current study did not ask about how often patients had been prescribed opioids and/or antibiotics. This study also excluded subsets of the ED population for whom medication retention and disposal practices may be particularly relevant (e.g., presenting for intoxication, suicide, or overdose).

In summary, ED providers represent prominent opioid and antibiotic stewards, and multiple approaches to limiting misuse are necessary to ensure patient medication safety and effectiveness. Our study highlights deficiencies that exist among ED patients with regard to appropriate disposal of excess medication that can be addressed in subsequent interventions. Successful ED efforts could be adopted across inpatient, outpatient, and pharmacy units.

**Declaration of Competing Interest**

AH, CCA, MK, KC, BA report no conflicts of interest.

**References**


