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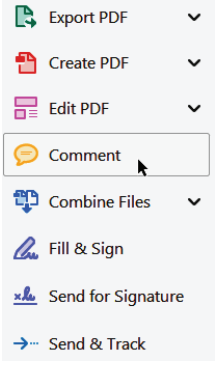

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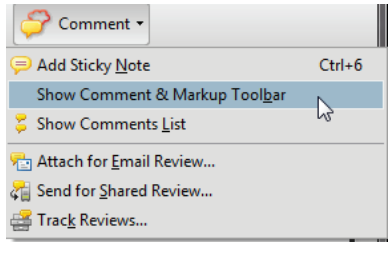

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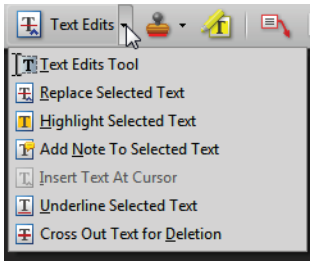

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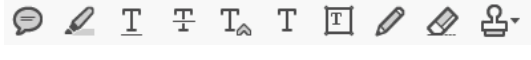

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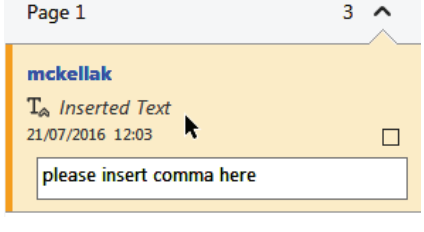

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Clinical Infectious Diseases

CORRESPONDENCE

Reply to Vaisman et al

To the Editor—We read with great interest the letter by Vaisman et al [1], detailing how the allergy history was used at their institution to increase perioperative β-lactam antibiotic use in patients with previously documented penicillin allergies. Their 2017 study demonstrated that a structured allergy history increased perioperative β-lactam use in patients with penicillin allergy from 18% to 57% [2]. We agree that the allergy history is an important and vastly underused tool that can greatly improve antibiotic choice in patients with a documented penicillin allergy. Given the implications of a penicillin allergy for clinical decision making perioperatively, we advise that an allergy history be universally adopted as the minimum standard of care for preoperative patients with documented penicillin allergies. We would, however, like to elucidate a few important considerations to keep in mind when relying on allergy history alone to inform perioperative prophylaxis.

First, education and training are required for allergy history taking and interpretation. Prior studies have demonstrated that healthcare providers generally have poor knowledge of crucial drug allergy principles [3, 4]. In the study by Vaisman et al [2], the allergy history was taught to pharmacists in formal educational sessions and 1:1 case-based trainings. It is equally important to recognize that overreliance on allergy history may provide false reassurance, with potential risk to patients. Immunoglobulin E–mediated allergy to penicillin can be present in patients without anaphylactic symptoms; early studies demonstrated that one-third of patients with positive penicillin skin tests had only vague allergy histories [5]. Despite this, patients with immunoglobulin E–mediated penicillin allergy may tolerate the perioperative cephalosporins cefazolin and cefoxitin [6]. Although this permits the use of first-line antimicrobial prophylaxis and decreases the risk of surgical site infections, cephalosporin tolerance does not equate to penicillin allergy resolution, and thus the primary penicillin allergy may still require investigation.

Although the allergy history alone remarkably increased perioperative β-lactam use from 18% to 57% [2], more comprehensive penicillin allergy evaluations with preoperative penicillin skin testing have been associated with 70% [7], 77% [8], 90% [9], and 98% [10] perioperative cephalosporin use and have been shown to improve intraoperative time efficiencies [8]. As such, if we consider that allergy history tools may get us about halfway toward optimal prophylaxis, comprehensive allergy testing will get us almost all the way there. Evaluation methods other than skin testing, such as graded challenges or test doses under observation, may also have perioperative applications, as they have in other care settings [11].

Any form of penicillin allergy investigation should be encouraged in the preoperative setting to improve patient care. If history-only methods are used, we encourage education and training of those obtaining the history, and caution in interpreting cephalosporin tolerance. Although comprehensive penicillin allergy evaluations are more effective than history alone, halfway is substantially better than where we are today and is a valuable strategy in settings where comprehensive evaluations are either not readily available or not practically implemented.

Note

Potential conflicts of interest. Both authors: No reported conflicts of interest. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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