



## Overview of adverse events related to invasive procedures in the intensive care unit

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Résumé en anglais	<p><b>Background</b>This study was conducted to determine the frequency, predictors, and clinical impact of adverse events (AEs) related to invasive procedures in the intensive care unit (ICU). <b>Methods</b> This was a prospective observational study of ICUs in a university hospital. <b>Results</b> A total of 893 patients requiring invasive procedures were admitted over a 1-year period. Among these, 310 patients (34.7%) experienced a total of 505 AEs. The mean number of AEs per patient was <math>1.6 \pm 1.1</math> (range, 1-7). Infectious AEs were significantly more frequent than mechanical AEs (60.4% vs 39.6%; <math>P = .01</math>). Factors independently associated with AE occurrence were isolation of multidrug-resistant bacteria at ICU admission, &gt;5 invasive procedures, and ICU length of stay &gt;8 days. Thirty-three AEs (6.5%) resulted in severe clinical impact, including 24 deaths. Ventilator-associated pneumonia (VAP) accounted for 62.5% of the deaths related to AEs. <b>Conclusions</b> One-third of critically ill patients experienced AEs related to invasive procedures. Severe AEs were associated with 11% of all ICU deaths. VAP was the most frequent AE related to death. An improved assessment of the risk-benefit balance before each invasive procedure and increased efforts to decrease VAP prevalence are needed to reduce AE-related mortality.</p>
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