

DRUG PROVOCATION TESTS IN CHILDREN: ALL THAT GLITTERS IS NOT GOLD

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Abstract

A proper allergy work-up, based on the gold standard drug provocation test (DPT), usually rules out suspected drug hypersensitivity in children. These tests are generally open, given their high efficiency compared to double-blind placebo-controlled DPTs. Although their negative predictive value is excellent, no studies have calculated their positive predictive value, highly dependent on the prevalence of the disease. Most studies have found a rate of less than 5% to 10% of true beta-lactam hypersensitivity in children. Given this low prevalence (pre-test probability), a few false positive results can significantly reduce the estimated positive predictive value. False positives may arise from the nocebo effect during the test, including nocebo by proxy, or from observer bias, which depends on professional expertise and organizational circumstances. Some studies have found a high rate of tolerance on a second DPT in children who failed the first, but these results may be affected by the interval between the two tests, of a year or more in most cases, reflecting a loss of hypersensitivity over time. Taking into account the low rate of positive DPTs, with commonly mild reactions, we suggest confirming non-severe positive DPTs with a second provocation performed soon after the first, especially in the case of beta-lactam antibiotics, in order to improve the diagnostic accuracy, de-label more patients, and achieve a better estimation of true drug hypersensitivity prevalence.

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