Drug Monitor

The Truth Behind Aspirin "Resistance"

Aspirin resistance in patients with coronary stenting has been cited as a cause of ischemic events. But could some apparent cases of aspirin resistance in this population actually be cases of aspirin nonadherence?

To find out, researchers from CHU Timone and Faculté de Médecine, both in Marseille, France studied 136 consecutive patients who underwent coronary stenting and received aspirin 75 mg daily. During the patients' hospitalization, their aspirin response was assessed by arachidonic acid-induced platelet aggregation within 12 hours of controlled aspirin intake. One month after their discharge, they were admitted to an antiplatelet monitoring unit, asked if they were continuing to take aspirin, and assessed a second time for aspirin response. Patients whose second assessment indicated no response then received aspirin 75 mg and had their response assessed for a third time.

The first, in-hospital assessments indicated that four (3%) of the patients had no response to aspirin. One month after discharge, eight (6%) of the patients said that they had stopped taking aspirin, and the second assessments indicated that 19 (14%) of the patients had no response. When these 19 patients received aspirin 75 mg and had their aspirin response assessed for a third time, however, all but one showed a response—indicating that, in 18 of the patients, the lack of response in their second assessment had been due to nonadherence. Of these 18 patients, nine subsequently said they had forgotten to take aspirin and nine said they stopped taking it due to adverse effects.

The researchers conclude that "aspirin resistance is rare" in adherent patients and that over 10% of patients undergoing coronary stenting do not adhere to prescribed aspirin therapy.

Source: *Am Heart J.* 2009;157(5):889–893. doi:10.1016.j.ahj.2009.02.013.

The Benefits of Limiting Antimicrobial Use

The results of a quasi-experimental, before-and-after study suggest that it is beneficial to limit the duration of antimicrobial therapy in intensive care unit (ICU) patients, according to researchers from the Hospital Israelita Albert Einstein, São Paulo, Brazil and Virginia Commonwealth University School of Medicine, Richmond, VA.

They investigated the effects of an intervention to combat the high rates of antimicrobial agent consumption and bacterial resistance at a medical-surgical ICU. From January 2006 to October 2006, an infectious diseases physician and a pharmacist intervened—either to discontinue antimicrobials or to focus antimicrobial therapy more effectively—in the treatment of patients who had been prescribed antimicrobials for more than 14 days. The researchers then compared various data collected during a 10-month preintervention period to data collected during the intervention period.

They found that while only 47.5% of the ICU's prescribed antibiotics were discontinued before 14 days during the preintervention period, 90% of them were discontinued before 14 days during the intervention period. Carbapenems consumption decreased by 24.5%, vancomycin consumption decreased by 14%, and cephalosporin consumption decreased by 12% during the intervention period.

These decreases were accompanied by reductions in the antimicrobial resistance of several species of bacteria during the intervention period. For *Klebsiella pneumoniae*, resistance to ceftazidime dropped from 100% to 56%, resistance to cefepime dropped from 100% to 61%, and resistance to imipenem dropped from 54.5% to 11%. For *Acinetobacter baumannii*, resistance to ceftazidime dropped from 92% to 50% and resistance to imipenem dropped from 88.5% to 20%. And for *Pseudomonas aerations*, resistance to ceftazidime and ciprofloxacin both dropped from 60% to 29%.

Nosocomial infections due to such bacteria as imipenem-resistant and ampicillin/sulbactam-resistant *A. baumannii* and ceftazidime-resistant and ciprofloxacin-resistant *Pseudomonas aeruginosa* also dropped during the intervention period, although infections due to *Staphylococcus aureus* and *K. pneumoniae* increased. Crude mortality in patients with nosocomial infections dropped from 29% to 17%.

These results, the researchers say, should reassure physicians that "limiting the duration of antimicrobial therapy will not result in a recurrence of the infection or a worse clinical outcome."

Source: *Am J Infect Control.* 2009;37(3):204–209. doi:10.1016/j.ajic.2008.06.008.