Adverse Reaction Associated With An Alcohol-Based Hand Antiseptic (5/03)


This prospective study compared 2 hand-hygiene regimes, an alcohol-based (61% ethyl alcohol with moisturizers) antiseptic and a detergent containing 2% chlorhexidine gluconate in two neonatal intensive care units. The authors described skin reactions to these products and compared them with typical reactions associated with traditional handwashing. Mild to severe dermatologic symptoms associated with the alcohol-based antiseptic occurred in seven of 58 nurses. This compared with 4/58 reactions reported for the traditional detergent-based antiseptic handwashing product. Four of the seven nurses were able to resume use of the original alcohol-based product after several days. The reactions associated with alcohol were qualitatively different from those associated with traditional handwashing. They occurred in younger women, immediately or very soon after initial exposure to the product, and in most cases, subsided within a few days so that the individual was able to resume use of the product without further problems. Conversely, reactions associated with traditional handwashing generally occur after prolonged and frequent use of a product and are more common with older age as the skin becomes less resilient. This dermatologic damage often becomes chronic and resistant to treatment. This case study alerts users to anticipate possible, albeit unlikely, reactions to topical products applied to the skin. Although there may be the rare health-care professional who can not tolerate alcohols, ultimately fewer skin problems may be anticipated when compared with the use of antiseptic soaps or detergents.

DIS Comment: Adverse reactions can occur when applying any topical product to the skin. The authors note that on the basis of their case study, it is neither possible nor appropriate to distinguish between an allergic and an irritant reaction. The fact that four of the seven nurses were able to resume use of the alcohol-based product argues against an allergic cause in those individuals. The nature of the reactions to alcohol products may differ from traditional handwashing, and the reactions are likely to be short-lived. Allergic contact dermatitis due to alcohol hand rubs is very uncommon. However, with increasing use of such products by health-care personnel, it is likely that true allergic reactions to such products will occasionally be encountered. The 2002 Centers for Disease Control and Prevention’s hand hygiene guideline recommends several potential strategies for minimizing hand-hygiene-related irritant contact dermatitis which include: replacing hand-hygiene products having high irritation potential with preparations that cause less damage to the skin; educating personnel regarding the risk of irritant contact dermatitis; and providing health-care professionals with moisturizing skin-care products or barrier creams. It's important to note that oil-containing products can compromise the integrity of rubber gloves and affect the efficacy of antiseptic agents used in the facility. Also, if alcohol hand rubs are used, routinely washing hands with soap and water immediately after using the alcohol product may lead to dermatitis. Several recent studies with alcohol-based products containing emollients have been associated with improvements in skin health and improved compliance with hand hygiene compared with traditional handwashing products.

Selected References