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Survey Shows Need for Improvement in Safety Practices for IV Vincristine

HUNTINGDON VALLEY, Pa.— Since 1989, the Institute for Safe Medication Practices (ISMP) has repeatedly published reports of fatal, preventable errors caused by giving IV vincristine by the intrathecal route. Results of a recent ISMP survey show that although awareness is widespread, more healthcare facilities need to put specific strategies in place to prevent these ongoing errors with accidental intrathecal administration.

ISMP received more than 400 practitioner responses to the survey; results were published in the February 23, 2006 issue of the *ISMP Medication Safety Alert!* In general, pediatric facilities, outpatient facilities, and facilities specializing in oncology services had employed specific error-prevention strategies more frequently than adult, inpatient, and general acute care facilities. Following are highlights of specific findings.

Dilution. A quarter of survey respondents do not further dilute IV vincristine before use, therefore missing a crucial chance to reduce the similarity between the IV drug and intrathecal medications. Dilution places IV vincristine in a larger volume of fluid that does not lend itself well to intrathecal infusions. Use of a minibag offers further differentiation, since intrathecal medications are often dispensed in a syringe.

Some opponents of dilution cite the risk of extravasation as a significant deterrent, especially if the patient's access line is not continually assessed for patency. However, survey respondents from all types of facilities reported no differences in the frequency of extravasations when administering diluted or undiluted IV vincristine.

Distinctive Packaging. Only half of all respondents (55%) reported that intrathecal medications are packaged in a distinctive manner (e.g., with unique overwraps) to prevent confusion with IV vincristine and other IV medications.

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Reminders. Despite a 1991 Food and Drug Administration (FDA) and United States Pharmacopeia (USP) requirement, 7% of all respondents do not affix special warning labels (FATAL if given intrathecally, FOR IV USE ONLY) on extemporaneously prepared doses of IV vincristine, and 20% do not place prepared doses in manufacturer-supplied overwraps with a similar warning.

Redundancies. Although most respondents (94%) reported that two health professionals independently check IV vincristine doses before administration, just 74% of all respondents required an independent check before dispensing the drug, even if another pharmacist initially prepared the dose.

Limiting Access. Just a quarter (23%) of all respondents deliver IV vincristine to a location where intrathecal drugs are prohibited, but only a third (38%) prohibit administration in the same location where intrathecal medications are given.

Verification. Less than half (42%) of all respondents verify that the intrathecal medication has been administered before dispensing IV vincristine (or vice versa) for patients receiving both medications.

Patient Monitoring. Most respondents (96%) report that a practitioner remains at the bedside to continually monitor the patient when administering undiluted IV vincristine. Less (81%) follow this practice when administering the diluted drug. Although extravasations are reportedly less severe with diluted IV vincristine, monitoring is still crucial given the high degree of potential harm.

ISMP stresses that all healthcare professionals who administer intrathecal medications should be made aware of the potential for errors involving IV vincristine. To view the full newsletter article on ISMP's survey, which contains a list of key error-reduction strategies, go to http://www.ismp.org/Newsletters/acutecare/articles/20060223.asp.

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