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Coping with chemo in childhood cancer

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Although nausea and vomiting are common in children undergoing chemotherapy, few quality studies identify absolutely the best way to prevent and treat this problem in kids, said Robert Phillips, M.D., lead author of a new Cochrane review. Phillips, a pediatric oncologist at St. James's Hospital in Leeds, England, said the main finding is the paucity of data that he and his colleagues uncovered.

While childhood cancers are rare, affecting less than 1 percent of all new cancer diagnoses, that 1 percent represents more than 10,000 young people under 15 in the United States, and many more worldwide. The second-most important finding of this study, Phillips said, is that a class of drugs called 5-HT3 antagonists appear to be the most effective anti-nausea agents.

"We think these drugs put a damper on nerves, calming receptors in the brain and gut, so they don't respond so strongly to chemo," he said. The drugs ondansetron, granisetron and tropisetron belong to this drug class.

"We are not surprised by these findings — which are blindingly obvious for clinicians — because this is a superb class of drugs," said Phillips. "It used to be that kids were stuck in wards for five, six, seven days after chemo. Now we are sending them home, because their vomiting is controlled." Doctors often give 5-HT3 antagonists along with steroids such as dexamethasone. According to Phillips, there must be "small magic fairies inside steroids, because they are excellent anti-sickness agents." Some investigators question whether steroids might reduce one's sensitivity to chemo. No evidence-based studies exist, however, that

show worsened outcomes.

The review appears in the current issue of The Cochrane Library, a publication of The Cochrane Collaboration, an international organization that evaluates research in all aspects of health care. Systematic reviews draw evidence-based conclusions about medical practice after considering both the content and quality of existing trials on a topic.

For this review, Phillips said, “We expected there to be more studies doing the same comparisons. We selected 28 trials with 1,719 patients undergoing 2,226 rounds of chemo. These randomized controlled trials looked at 23 drug combinations — all different. One study reporting on the same drug combination might be true, but 10 or 15 studies would be so much more convincing.” Good evidence-based studies on these drugs do exist for adults, Phillips said, but speaking generally, these findings are not applicable to children. For one thing, children are a different size than adults, but it is not a simple matter of reducing drug doses in direct proportion to height and weight. The amount of fat and muscle changes continually in kids — especially in those going through puberty. The way the drugs go into and leak out of fat and muscle, therefore, varies depending on different drugs and body compositions.

“What is unclear is at what point you can combine adult and children’s studies,” Phillips said. “And when is it important to separate them? We need to carry on working with this, so we don’t force kids to go through unnecessary studies. On the other hand, we don’t want to give kids drugs that have been inappropriately tested.”

While medications help children cope with the rigors of chemotherapy, Phillips reminds parents to give these various anti-sickness agents to their kids for a couple days after chemo — even if they are not feeling sick.

Finally, if you have a child with cancer, Phillips encourages you to "please get involved in clinical trials and studies, so researchers know they are asking the right questions. This will benefit not only your child, but children who come after you." Stacey Berg, M.D., a pediatric oncologist at Texas Children's Cancer Center, said that the review shows that despite the many new medicines that prevent nausea and vomiting in kids who receive chemotherapy, the treatment is still imperfect. Berg offers some simple steps that children and their families can take to try to reduce nausea during treatment.

"For example, when your stomach is unsettled, start with small amounts of clear liquids, or easy- to-digest foods like crackers or rice," she said. "Avoid heavy or spicy foods until you're sure that your stomach will tolerate them. If you do vomit, rinse your mouth or brush your teeth afterwards to get the bad taste out of your mouth. Sometimes smells can trigger nausea, so try avoiding strong smells until you're feeling better."

Both Berg and Phillips urge parents to tell the doctor or nurse if their child has trouble with nausea at home, because sometimes their medicines can be adjusted to help. "Doctors won't be cross if your child is sick," said Phillips. "If you don't tell us, we won't know."

More information: Phillips RS, et al. Antiemetic medication for prevention and treatment of chemotherapy induced nausea and vomiting in childhood. *Cochrane Database of Systematic Reviews* 2010, Issue 9

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