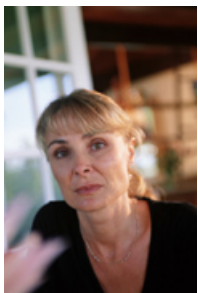


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Advanced breast cancer: Can bisphosphonates prevent broken bones?



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Cancer spreading to the bones is one of the fears with advanced breast cancer. Cancer cells move to the skeleton and start to grow there. This growth weakens the bones so much that it can lead to painful breaks.

Researchers have been testing bisphosphonate drugs in recent years to try to find a way to protect women with advanced breast cancer from broken bones. It is known that these drugs can slow down damaging bone loss.

To assess the benefits and adverse effects of these drugs, researchers from the Cochrane Collaboration, an international research network, gathered and systematically analyzed the treatment results of 21 trials among almost 7,200 women with advanced breast cancer.

Bisphosphonates can slow down damage to bones

Their most important conclusion was that although bisphosphonates cannot completely stop bone damage from cancer, the treatment reduced the number of broken bones. However, it is not possible to judge whether one particular medication is more effective than others. The evidence suggests that these drugs only have a benefit for women in whom cancer has already spread to the bones. It does not seem as though bisphosphonates can prevent cancer spreading to the bones, and they do not appear to lengthen life, either.

Serious adverse effects such as severe nausea, fever or calcium deficiency were uncommon in the trials. When bisphosphonates are used in combination with other cancer drugs there is an increased risk of problems with the jawbone following dental treatment.

The risk of certain, rare fractures is higher, however

The European Medicines Agency (EMA) reported in April 2011 that bisphosphonates can lead to fractures (breaks) of the thigh bone in rare cases. But they increase this risk only for what are called atypical stress fractures. These fractures are caused by long-term overuse of the bone and not by a sudden, severe impact from outside the body. They represent only a small part of all thigh bone fractures. For this reason, the EMA stands by their assessment that the benefit of using bisphosphonates outweighs their risks.

Warnings signs of stress fractures can often be noticed weeks or months ahead of time. Typical symptoms are pain or a feeling of weakness in the affected area. If women who are taking bisphosphonates notice these signs in their thigh, it is important they notify their doctor. Because these fractures can happen on both sides, both legs need to be examined. In most cases that have been examined, the stress fractures only developed after years of taking bisphosphonates.

You can read more about breast cancer here (URL: <http://www.gesundheitsinformation.de/index.128.56.en.html>) .

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(The latest update only contains the EMA recommendation from April 2011. Other information on the advantages and disadvantages of bisphosphonates has not been updated.)

Glossary

calcium

Calcium is an important mineral for human health. It is one of the building blocks for bones and teeth, and it is necessary for blood clotting, the muscles and the nerves. Calcium occurs in milk and milk products, as well as in green leafy vegetables. People can get a calcium deficiency if they have a chronic inflammatory bowel disease, as well as in pregnancy or during breastfeeding.

Cochrane Collaboration

The Cochrane Collaboration is an international network of thousands of researchers and others. They work together in teams called Cochrane Review Groups to answer questions about health care by doing systematic reviews of evidence. To achieve this, the members of the Collaboration have developed systems and methods for systematically finding and analysing the results of trials of health care interventions. The goal of the Cochrane Collaboration is to help patients, health care practitioners and others make more informed decisions about health care. You can read more about the Cochrane Collaboration at their website.

evidence

Evidence is what we call scientific proof from well-conducted, good-quality scientific trials that have been carefully designed to answer specific questions. Depending on the types of questions, different scientific research methods (types of study) are most appropriate to find reliable answers to these questions. Randomized controlled trials (RCTs), for example, are the best way to get reliable evidence on the effectiveness of medical treatments (interventions). This type of study, however, is not the best form of evidence for all possible questions, and does not provide the best answers to all kinds of questions, either. Epidemiological studies, for example, are very suitable for establishing well-founded proof for the spreading of a disease in the population.

Sources

IQWiG health information is based on research in the international literature. We identify the most scientifically reliable knowledge currently available, particularly so-called “systematic reviews”. These summarize and analyze the results of scientific research on the benefits and harms of treatments and other health care interventions. This helps medical professionals and people who are affected by the medical condition to weigh up the pros and cons. You can read more about systematic reviews and why these can provide the most trustworthy evidence about the state of knowledge here (URL: <http://www.informedhealthonline.org/index.61.en.html>) . We also have our health information reviewed to ensure the medical and scientific accuracy of our products.

European Medicines Agency (EMA). *European Medicines Agency concludes class review of bisphosphonates and atypical fractures*. London: EMA. 15 April 2011. [Full text (URL: http://www.ema.europa.eu/ema/index.jsp?curl=pages/news_and_events/news/2011/04/news_detail_001245.jsp&murl=menus/news_]

Pavlakis N, Schmidt RL, Stockler M. Bisphosphonates for breast cancer. *Cochrane Database of Systematic Reviews*: Version 2005, Issue 3. CD003474 [Cochrane summary (URL: <http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD003474/frame.html>)]

The German Institute for Quality and Efficiency in Health Care (IQWiG)

The German Institute for Quality and Efficiency in Health Care (IQWiG) was established by legislation to provide evaluations of the effectiveness, quality and efficiency of healthcare services. This includes the assessment of medicines as well as the publication of health information for consumers and patients.

Evidence basis of our health information

Our information is based primarily on systematic reviews of the effects of health care. Systematic reviews are necessary to gain an objective picture of health care. In order to do this, a clear question is formulated. Researchers then find all the relevant studies that could answer this question. They then evaluate those studies.

You can find a list of the evidence and other scientific literature on which this information is based at **www.informedhealthonline.org**

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