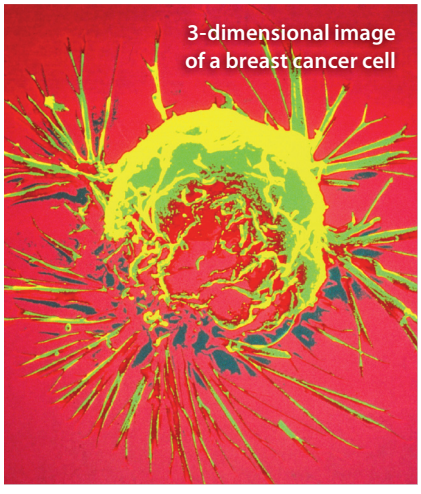

Link between lisinopril and breast cancer; methotrexate clearance

Is there any information about a link between lisinopril (Zestril, generics) and breast cancer recurrence?

—Capt. Brandy R. Perry, PA-C, USAF

Multiple studies have examined the relationship between lisinopril, other angiotensin-converting enzyme (ACE) inhibitors, and cancer risk, progression, and survival.[1] These studies used different trial designs (eg, randomized controlled trials, observational studies, epidemiological studies) and reported conflicting results. In vitro data with the ACE-inhibitor captopril (Capoten, generics) and the angiotensin receptor blocker (ARB) losartan (Cozaar, generics) suggest that these medications may decrease tissue factor and other regulators of cancer proliferation, growth, and metastases.[2] In short, further study is needed. The data are not yet conclusive regarding ACE-inhibitors and cancer recurrence risk, and the decision to use an ACE-inhibitor over another type of antihypertensive should be made after evaluation of the multiple risks and benefits associated with these medications.

REFERENCES

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What are some common reasons for delayed methotrexate clearance after a 24-hour infusion?

—Hayzel Casas, RN, BSN

High-dose methotrexate is administered for certain types of cancer, and generally includes doses of 500 mg/m^2 or higher. These regimens deliver high doses of methotrexate over 4 to 36 hours, followed by intermittent doses of leucovorin (Fusilev, generics). The leucovorin rescue is intended to minimize damage to healthy cells; otherwise, such high doses of methotrexate can be fatal. Methotrexate serum concentrations are monitored after conclusion of the infusion, and leucovorin is administered until serum concentrations are below a point specified by the treatment protocol. Delayed elimination of methotrexate can lead to serious adverse events and even death.

Multiple factors can result in prolonged serum concentrations of methotrexate. Methotrexate is water soluble, so it can accumulate in body fluids such as ascites or effusions. Methotrexate will then slowly leak out of the fluid, resulting in prolonged serum concentrations.

Some medications may also affect renal excretion of methotrexate by inhibiting its secretion. These include nonsteroidal anti-inflammatory drugs (NSAIDs), probenecid (Probalan, generics), penicillins, proton pump inhibitors, vitamin C, sulfa, and some other antibiotics. These medications should be held at least 24 hours prior to initiation of high-dose methotrexate.

The best strategy for managing delayed methotrexate clearance is to prevent known contributing factors. For example, effusions should be drained if possible prior to administering high-dose methotrexate, and medications that interfere with methotrexate excretion should be held. Renal function should be monitored prior to each dose of methotrexate, and doses adjusted or held for impaired renal function. ■

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