

## Highlights of recently published studies that affect health care and nursing.

### LONG-TERM ANTICOAGULANT THERAPY INCREASES BLEEDING RISK IN PATIENTS WITH UNPROVOKED VTE

**According to this study:**

- Patients who receive extended anticoagulant therapy after a first unprovoked or weakly provoked venous thromboembolism are at increased risk for major bleeding.

Anticoagulant therapy is recommended for three to six months after a first unprovoked venous thromboembolism (VTE). Extending treatment beyond this period requires balancing a patient's risk for a potentially fatal recurrent VTE with the risk of a potentially fatal major bleeding event associated with anticoagulation therapy. A systematic review and meta-analysis was undertaken to determine the risk of major bleeding in patients receiving extended anticoagulant therapy after a first unprovoked VTE and in clinically important subgroups.

Of the 27 studies included in the analysis, 14 were randomized controlled trials and 13 prospective cohort studies. A total of 17,202 patients who had a first unprovoked or weakly provoked VTE completed at least three months of anticoagulant therapy, including 9,982 patients who received a vitamin K antagonist and 7,220 who received a direct oral anticoagulant.

The incidence of major bleeding per 100 person-years was 1.74 events among patients receiving vitamin K antagonists and 1.12 events among those taking direct oral anticoagulants. The five-year cumulative incidence of major bleeding among patients taking vitamin K antagonists was 6.3%.

The incidence of major bleeding was significantly higher among patients who were older than 65, and who had a creatinine clearance

less than 50 mL/min, a history of bleeding, concomitant use of antiplatelet therapy, and a hemoglobin level less than 100 g/L.

Khan F, et al. *Ann Intern Med* 2021;174(10):1420-9.

### ELECTROLYTE DISORDERS COMMON IN THIAZIDE DIURETIC USERS

**According to this study:**

- Hyponatremia and hypokalemia occur in approximately 20% of patients who take thiazide diuretics.

Thiazide diuretics are widely used in the treatment of hypertension, yet their use is associated with electrolyte disorders. Researchers investigated the prevalence of and risk factors for hyponatremia and hypokalemia in patients taking thiazide diuretics, substance-specific risks for these electrolyte disorders, and whether the use of thiazides is associated with a higher risk of syncope and falls.

The cross-sectional analysis included all adults admitted to the ED in a one-year period whose sodium and potassium levels were measured on admission. The researchers conducted detailed chart reviews for all patients and screened for a history of syncope or falls.

Of the 20,421 patients for whom sodium and potassium measurements were available, 1,604 were taking thiazide diuretics regularly.

Acute kidney injury was more common in thiazide users than in nonusers (21.4% versus 7.2%). Hyponatremia and hypokalemia were also significantly more common in patients taking thiazides versus nonusers (22.1% versus 9.8% and 19% versus 11%, respectively). The likelihood of hyponatremia and hypokalemia rose with increasing thiazide doses. This effect varied

based on the type of thiazide—the likelihood was highest with chlorthalidone and lowest with hydrochlorothiazide. Syncope and falls were significantly more common in patients taking thiazide diuretics. Thiazide use was the strongest independent predictor of syncope and falls, even after correction for the presence of hyponatremia and hypokalemia. Increasing age was also an independent risk factor for syncope and falls, and there was a trend for male sex being protective.

Ravioli S, et al. *Am J Med* 2021;134(9):1148-54.

### EPIDURAL ANALGESIA ASSOCIATED WITH HIGHER RATE OF NEONATAL INFECTION

**According to this study:**

- Epidural analgesia during labor was associated with a higher risk of neonatal infection in full-term neonates delivered vaginally.

Epidural analgesia is widely used during labor, but its effect on neonatal infection isn't clear. Researchers evaluated the association between epidural analgesia in labor and neonatal infection in a large cohort of full-term nulliparous women who had vaginal deliveries.

The final study population included 37,786 women, of whom 19,968 (52.8%) received epidural analgesia. Of these women, 15,401 were individually matched by propensity score with women who didn't receive epidural analgesia.

In the matched cohort, use of epidural analgesia during labor was associated with an increased risk of neonatal infection (relative risk [RR], 2.43), including a greater risk of neonatal sepsis (RR, 3.50) and uncharacterized infection (RR, 2.69), than nonuse of epidural analgesia.

Jia L, et al. *JAMA Netw Open* 2021;4(9):e2123757. ▼

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