Suboxone Versus Vivitrol: Similar Outcomes

Two very different medicines used to treat opioid use disorder—buprenorphine/naloxone (Suboxone, Indivior, Inc.) and extended-release naltrexone (Vivitrol, Alkermes, Inc.)—have similar outcomes if the patient sticks with the treatment, according to a 24-week study of 570 opioid-dependent adults.

The researchers expected that it would be more difficult to initiate treatment with naltrexone because it requires full detoxification, and patients often drop out of the process early. And, indeed, fewer patients did successfully initiate naltrexone compared with buprenorphine/naloxone (72% versus 94%). The 24-week relapse rates were slightly higher for naltrexone: 65% compared with 57% for buprenorphine/naloxone, due mainly to early relapse in the naltrexone group.

But among the 474 patients who successfully started medication, the relapse rates were similar: 52% for naltrexone versus 56% for buprenorphine/naloxone.

Other outcomes among patients who began treatment—days abstinent, negative urine tests, and time to relapse—generally favored buprenorphine/naloxone in the full group, the researchers say. When only those who initiated treatment were considered, the outcomes slightly favored naltrexone.

During the study, five people had fatal overdoses, three in the buprenorphine/naloxone group and two in the naltrexone group. However, overall overdose rates, including nonfatal overdose, were low compared with what would be expected in this population, the researchers say. Their findings “strongly support” the conclusion that medication protects against overdose.

“Studies show that people with opioid dependence who follow detoxification with no medication are very likely to return to drug use,” said Nora Volkow, MD, Director of the National Institute on Drug Abuse. “Yet many treatment programs have been slow to accept medications that have proven to be safe and effective. These findings should encourage clinicians to use medication protocols.”

Source: National Institutes of Health, November 2017

Maternal Weight and Childhood Asthma

Extremes in weight gain during pregnancy are risk factors for early childhood asthma, say researchers from the University of South Carolina. They found obesity nearly doubled a woman’s chances of having a child who developed asthma by the age of 4 years. Extreme-low weight gain (less than 5 kg) and extreme-high weight gain (25 kg or greater) were both associated with increased risk of asthma.

At ages 9 months, 2 years, and 4 years, 5%, 8%, and 12% of children, respectively, were diagnosed with asthma. Overall, 15% of children were diagnosed with asthma by the age of 4. Every 1.0-unit increase in maternal body mass index was associated with increased odds of asthma in children.

Childhood asthma is already believed to have in utero origins, the researchers say. They cite a study that found 40% of children with a diagnosis of asthma by 7 years of age had had reduced airflow and bronchial responsiveness as neonates. Research suggests that maternal weight and gestational weight gain may change the intrauterine environment and affect the development of asthma.

To their knowledge, the researchers say, no studies have examined the association between gestational weight gain and asthma in offspring in a nationally representative sample of children in the U.S. Moreover, previous studies did not account for gestational age, which can affect the amount of weight gained.

No single risk factor can entirely account for childhood asthma, the researchers note, but maternal obesity is one that is modifiable.

Source: Preventing Chronic Disease, November 2017

How Long Can Corneas Be Saved Before Transplantation?

The belief that corneas that have been preserved for longer than seven days are not viable for transplantation is not based on evidence, says Jonathan Lass, MD. In fact, he led a study that found corneas can be safely preserved for 11 days without negative impact on the success of transplantation.

In the Cornea Preservation Time Study, funded by the National Eye Institute, Dr. Lass and other researchers looked at three-year graft success rates among 1,090 participants (1,330 eyes) who underwent transplantation via Descemet’s stripping automated endothelial keratoplasmy by 70 surgeons at 40 surgical sites. Most of the patients had Fuchs’ endothelial corneal dystrophy, a progressive disease.

The researchers were “unable to conclude” that the success rates were the same for corneas preserved for eight to 14 days, versus up to seven days (92% versus 95%). However, they found that much of the difference between the groups was accounted for by patients receiving corneas preserved for 12 to 14 days.

In a separate analysis, the researchers looked to see if differences in corneal preservation time affected endothelial cell loss after three years. They found that corneas preserved for up to seven days had a 37% loss of cells versus 40% in those preserved for eight to 14 days. A closer look at the data showed that the effect of corneal preservation time on the loss of endothelial cells was comparable from four to 13 days.

Dr. Lass emphasizes that while patients who received the older corneas had lower success rates, even those success rates were “impressively high” at 89%.

Donor corneas are not in short supply in the U.S. Outside the U.S., however, corneal disease is the third leading cause of blindness, and corneal donor tissue is scarce.

Source: National Institutes of Health, November 2017
Is It Safe to Manage Thyroid Cancer by Surveillance?

Research groups have suggested that small papillary thyroid cancers (PTCs) (less than 2 cm) have been overdiagnosed and overtreated. But then the question becomes: how to manage patients with small PTCs and the even smaller (less than 1 cm) papillary microcarcinomas (PMCs)?

In 1993, physicians from Kuma Hospital in Kobe, Japan, initiated an active surveillance trial for patients with low-risk PMCs without worrisome features. They observed that only a small minority of patients showed disease progression, and those patients were successfully treated with rescue surgery. The Cancer Institute Hospital in Tokyo reported similar promising data from a trial begun two years later. (The 2015 American Thyroid Association guidelines now acknowledge that active surveillance can be an alternative to immediate surgery in patients with low-risk PMCs.)

At Kuma Hospital, the researchers had noted that, over time, disease progression differed according to the age of the patients. Using data on 1,211 patients in their own surveillance program from 1993 to 2013, they estimated what the lifetime probabilities of disease progression were during active surveillance.

The estimated trend curves of disease progression “varied markedly,” they found, depending on the patient’s age at presentation. Patients in their 20s and 30s had a steep increase for the first 10 or 20 years, with a gradual increase thereafter. Patients in their 40s or older showed a milder increase. The estimated lifetime probability of disease progression fell with each decade of age at presentation.

The researchers propose that surveillance be continued for the patient’s lifetime because tumors do progress in a “small but noteworthy” percentage of patients. When patients with low-risk PMCs are treated surgically at presentation, they should still be followed up after the surgery. Two-thirds of their patients who underwent immediate surgery still needed l-thyroxine, and most likely will for their lifetime, the researchers note. However, PMCs that may progress after the 10-year time point of active surveillance could be expected to have a very mild progressive nature, they conclude, and the outcome of surgery should be excellent.

Source: Surgery, November 2017

Thyroid Hormones Predict Readmission After Aortic Surgery

Thoracic endovascular aortic repair (TEVAR) is a “young technology with several unknowns,” say researchers from Shantou University Medical College and Wuhan Asia Heart Hospital in China. One of those unknowns is the risk factors for prognosis after TEVAR.

The researchers theorized that thyroid hormone levels might provide valuable predictive information. After all, thyroid hormones are critical to many areas of heart health, such as vascular remodeling; hypothyroidism can aggravate hypertension; and low levels of free thyroxine (FT4) influence arterial stiffness and C-reactive protein. Despite the many links, however, the relationship between subclinical hypothyroidism and cardiovascular disease has not been fully elucidated, the researchers say. They conducted a study to evaluate whether thyroid hormones predicted early (30 days) and mid-term (12 months) aorta-related adverse events, such as death, progression of aortic disease, organ failure, or lower limb ischemia, and aorta-related readmissions.

In their study, 338 patients were stratified according to their levels of FT4 before undergoing TEVAR. Of the enrolled patients, 288 were followed up at 12 months for readmission; 292 were followed up on adverse events.

Patients with low normal levels of FT4 had a greater risk of readmission after TEVAR. Within 30 days, the incidence of adverse events and readmission were 2.7% and 4.1%; within 12 months, 8.9% and 13.5%. After the researchers adjusted for confounders, the patients with the lowest FT4 quartile were at significantly greater risk for readmission than those in the highest-quartile group at both early and mid-term follow-up.

The same did not hold true for adverse events. The researchers say this is not uncommon in studies of predictors of adverse events and readmission: Factors that are weak predictors of readmission tend to be strong predictors of adverse events, and vice versa.

Source: Scientific Reports, November 2017