Does cognitive function decline during the menopausal transition?

Yes But appropriately timed hormone therapy (HT) may prevent this decline. That is one of the findings of the Study of Women’s Health Across the Nation (SWAN), a prospective cohort study of more than 2,300 women. SWAN also found that women who used HT before the final menstrual period exhibited higher cognitive functioning during perimenopause and menopause—whereas women who initiated HT after their last menstrual period experienced a decline in cognitive function.

Details of the study

Participants were 42 to 52 years old and had an intact uterus and at least one ovary at entry. They were followed for 4 years, with delineation of the menopausal stage (i.e., premenopause, early and late perimenopause, and menopause) and assessment of hormone use prior to the final menstrual period and after menopause. The outcome was longitudinal performance in three cognitive domains:

- **processing speed**—assessed using the Symbol Digit Modalities Test. Premenopausal, early perimenopausal, and postmenopausal women improved with repeated administration of this test, but late perimenopausal women did not. Prior use of HT improved the score, whereas late use of HT reduced it.

- **verbal memory**—evaluated via the East Boston Memory Test. Test scores increased during premenopause and postmenopause but not during early or late perimenopause. Prior use of HT improved the test score, but late use reduced the score.


EXPERT COMMENTARY

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**WHAT THIS EVIDENCE MEANS FOR PRACTICE**

Because perimenopausal HT should include a dosage of progestin adequate to suppress ovulation in order to prevent iatrogenic irregular uterine bleeding, women who are healthy, lean, nonsmoking, and still having menstrual periods can safely use a conventional oral contraceptive. Options for other symptomatic perimenopausal women include a continuous oral menopausal regimen formulated with 5 μg of ethinyl estradiol and 1 mg of norethindrone acetate (Femhrt 1/5) or 1 mg of estradiol and 0.5 mg of norethindrone acetate (Activella 1/0.5 or generic).

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Use of staples for skin closure during cesarean delivery produced less pain, shorter operative time, and cosmesis comparable to sutures.

As the cognitive component of SWAN began, the mean age of participants was 50 years, and 8% were premenopausal, 49% were early perimenopausal, 12% were late perimenopausal, and 27% were postmenopausal. In addition, 4% were both postmenopausal and current users of HT.

References
Evidence is insufficient to systematically recommend one type of skin closure over another

When such a study is published, it is easy to assume that the issue has been settled and to change or not change practice, depending on your existing technique—but that is often unwise. Every study has limitations. Even when statistically significant benefits are demonstrated, as they are in this study, it may not always be clear whether your patients match the patients in the study, or whether your technique matches what has been administered during the investigation.

In this case, a few problems need to be pointed out:

- Although the evaluation of cosmesis was by masked clinicians, assessment of the primary outcome—pain—was conducted by the patients themselves, who were not masked. One can easily see that awareness of a suture retained beneath the skin might bias a patient’s perception of pain and discomfort. It would be relatively easy to mask the type of closure—even from patients—on postoperative day 1, but masking would become much more difficult when the staples needed to be removed.

- The issue of statistical analysis can sometimes be dull, but is occasionally paramount in determining validity of a study. In this case, the primary outcome—the pain scale—was considered a continuous outcome and compared using a Student’s t-test. An important assumption in this test is that the data are normally distributed. However, the authors do not make it clear whether they tested the data for normality. Particularly at the 6-week evaluation, when the mean value was between 0 and 1 for both groups, it seems unlikely that the data were normally distributed. As a result, the difference in pain scores—0.2 vs 0.5—could have been driven by a few high values in one group. Statistically, this would have been easy to manage by changing the comparison to a Wilcoxon rank-sum test.

Despite these limitations, it does seem unlikely that the pain at 6 weeks would have been worse in the staple group.

These findings contrast those of another study of the same topic, which found less pain in the subcuticular suture group. In that unmasked study, subcuticular closure was determined to be more “cosmetically attractive” by the patients and their physicians. Again, one needs to be concerned about bias.

References


WHAT THIS EVIDENCE MEANS FOR PRACTICE

To echo the latest Cochrane review of this topic, there is insufficient evidence—even after this investigation—to systematically recommend one type of skin closure over another. However, given the masked evaluation of the wounds and the clear lack of difference in their appearance in this study, cosmesis alone does not seem to be sufficient reason to utilize subcuticular sutures to close the skin at cesarean delivery. In fact, the shorter operative time documented in the staple-closure group in this study could tip the scale in favor of using staples for this procedure.

Clearly, we need many more investigations of surgical technique and perioperative care in regard to cesarean delivery. Although I hope that cesarean section does not remain the most common surgical procedure, it seems likely that it will always be a large part of obstetric care. Therefore, optimization of outcomes merits attention.

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