Strategic planning is long overdue and could mitigate long-term complications that result from delayed diagnosis of primary ovarian insufficiency

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A new analytical approach could be more aggressive in revising the traditional definition to a more contemporary and functional one. Timely diagnosis with less delay results in less morbidity and ultimately greater patient satisfaction with the quality of received medical care. (Fertil Steril® 2011;95:1898. ©2011 by American Society for Reproductive Medicine.)

This article advocates for rethinking our current analytical and organizational approaches to primary ovarian insufficiency (POI) (1). The recommendations are based upon discussions that took place at a workshop sponsored by Rachel's Well, the American Society for Reproductive Medicine, and the National Institutes of Health (NIH) in October 2008. A collaborative integrative effort makes sense, given the challenges of limited federal and private resources and the cross-disciplinary expertise that is required to address a health issue that appears to have relatively low prevalence. Strategic planning is long overdue and, if effective, could mitigate the long-term complications that result from the delayed diagnosis of POI. Additional effort will serve to redefine and allow an earlier diagnosis of POI by taking advantage of current technologies. A greater collaborative effort between clinical and basic research and including oncology would improve the prognosis of premenopausal women whose fertility is often in jeopardy as an untoward consequence of proper treatment. There is also a need for a broader application of research for the growing number of women who suffer from ovarian insufficiency due to cancer-related treatments.

A new analytical approach could be more aggressive in revising the traditional definition to a more contemporary and functional one. Timely diagnosis with less delay results in less morbidity (i.e., earlier treatment for prevention of osteopenia and/or osteoporosis) and ultimately greater patient satisfaction with the quality of received medical care. The increased prevalence of POI in adolescents, young women, and premenopausal women resulting from the treatment for cancer emphasizes the increased relevance of this approach. Breast cancer, for example, affects >215,000 women annually in the United States alone. Approximately 25% of these cases occur before the age of menopause and 15% in women under the age of 45 years. Although the mechanism(s) leading to ovarian failure may differ from those responsible for chemotherapy or radiation induced ovarian failure, the end result and sequelae are similar.

There now exist earlier and more sensitive markers (e.g., inhibin B, antimullerian hormone, and antral follicle count) than the traditional serial elevated FSH values currently used to assess decline in ovarian function. Contemporary biomarkers are likely to be more useful as age-specific (2–4) and possibly race-specific (5) values are developed and as associations with onset of bone mineral density and cardiovascular changes are clarified. More effective organizational approaches need to encourage the integration of medical oncologists along with patient advocate groups, such as the Lance Armstrong Foundation/Fertile Hope. This will heighten awareness for clinicians, patients, and their families regarding chemotherapy and radiation-induced ovarian failure as well as highlight the availability of potential existing methods of fertility preservation (6). There already exist several productive models of collaborative research protocols among investigators at multiple sites (e.g., Society for Gynecologic Oncology, Maternal Fetal Medicine network, and the Reproductive Endocrinology networks funded by NIH), demonstrating the likely success using such approaches. If such an investigative approach proves to be successful for POI, work in other disease entities (e.g., polycystic ovary syndrome and endometriosis) might be pursued in a similar fashion. Future novel treatments for ovarian insufficiency, such as stem cell therapy, are more likely to emerge from cross-disciplinary efforts than from the current existing model of compartmentalized effort. The current recommendations are a great start and could serve as a platform from which many other advances emerge to improve health care for women.

REFERENCES

1. Cooper AR, Baker VL, Sterling EW, Ryan ME, Woodruff TK, Nelson LM. The time is now for a new approach to primary ovarian insufficiency. Fertil Steril 2011;95:1890–7.
2. Nelson SM, Messow MC, Wallace AM, Fleming R, McConnachie, A. Nomogram for the decline in serum antimullerian hormone: a population study of 9,601 infertility patients. Fertil Steril 2011;95:736-41.
3. la Marca A, Sighinolfi G, Giulini S, Traglia M, Argento C, Sala C, et al. Normal serum concentrations of anti-mullerian hormone in women with regular menses cycles. Reprod Biomed Online 2010;4:463–9.
4. Seifer DB, Baker V, Leader B. Age-specific serum antimullerian hormone (AMH) values for 17,120 women presenting to fertility centers within the United States. Fertil Steril 2011;95:747-50.
5. Seifer DB, Golub ET, Lambert-Messerlian G, Benning L, Anastos K, Watts DH, et al. Variations in serum müllerian inhibiting substance between white, black, and Hispanic women. Fertil Steril 2009;92:1674–8.
6. Forman EJ. A nationwide survey of oncologist regarding treatment-related infertility and fertility preservation in female cancer patients. Fertil Steril 2010;94:1652–6.

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