Table 1

Characteristics and outcomes of women treated using methotrexate with or without misoprostol to terminate pregnancies with no gestational sac visible by ultrasound (n = 372).[a]

Characteristics and outcomes	Methotrexate plus misoprostol (n = 342)	Methotrexate alone (n = 30)	P value
Age, y	28.9 ± 6.9	29.2 ± 5.4	0.82
Total pregnancies	3.0 ± 2.2	2.6 ± 2.1	0.36
Initial beta-hCG, IU/L	681.2 ± 512	783.4 ± 783	0.32
hCG decreased > 15% in 48 hours before day 8	245 (71.6)	16 (53.3)	0.017
Second methotrexate dose given day 8	62 (18.1)	9 (30.0)	0.11
Misoprostol given day 8	53 (15.6)	1 (3.4)	0.70
Pain score 0–10	3.7 ± 3.4	0.7 ± 1.8	<0.001

[a] Values are given as mean ± SD or number (percentage).

Secondary outcomes were pain, complications, and requirement for other treatment.

Between January 2006 and September 2008, 342 eligible women were treated with methotrexate and misoprostol. Between September 2008 and December 2008, 30 women were treated with methotrexate alone. The 2 groups were similar in age, initial beta-hCG levels, and obstetric history. Beta-hCG level dropped by more than 15% in the first week in 245 (71.6%) women who received methotrexate and misoprostol and in 16 (53.3%) women who received methotrexate alone (*P* = 0.017) (Table 1). No surgery, hospitalizations, or transfusions were required. Two women were given analgesia in emergency departments for pelvic pain.

The women in the present study did not respond to a single dose of methotrexate as well as those women treated for ectopic pregnancies reported by Hajeniius et al. [1]. None of the women in the present study was diagnosed with an ectopic pregnancy. The higher rate of viable intrauterine pregnancies in this group may have resulted in more women requiring extra medication to abort. Methotrexate with misoprostol or alone appears to be an effective method of treating women who present for abortion prior to detection of a gestational sac.

Acknowledgment

References

[1] Hajenius PJ, Mol F, Mol BW, Bossuyt PM, Ankum WM, van der Veen F. Interventions for tubal ectopic pregnancy. Cochrane Database Syst Rev 2007;24(1): CD000324.
[2] Schaff EA, Fielding SL, Eisinger S, Stadalius L. Mifepristone and misoprostol for early abortion when no gestational sac is present. Contraception 2001;63(5):251–4.
[3] Edwards J, Carson SA. New technologies permit safe abortion at less than six weeks' gestation and provide timely detection of ectopic gestation. Am J Obstet Gynecol 1997;176(5):1101–6.
[4] Wiebe E, Hempstock W. Comparison of four regimens of misoprostol after methotrexate for early abortion. Int J Gynecol Obstet 2008;101(2):192–3.

Age at menopause in rural El Salvador

Anne Marie Borchelt [a,*], Elizabeth Conlisk [a], Miriam Cremer [b]

[a] *School of Natural Science, Hampshire College, Amherst, MA, USA*
[b] *New York University School of Medicine, New York, NY, USA*

ARTICLE INFO

Studies from low-income countries report average or median ages at menopause in the range of 45–49 years, which is earlier than the range of 50–52 years reported for industrialized nations [1]. These findings may simply reflect a systematic difference in the statistical methodologies used. Most estimates from low-income countries have relied on recalled ages at menopause, which introduces downward bias by excluding pre-menopausal women of the same ages [2]. In contrast, studies from industrialized nations have consistently used survival techniques such as Kaplan-Meier analysis, or status quo techniques such as probit analysis. These unbiased methods include both pre- and postmenopausal women in the analysis.

Age at menopause has been associated with sociodemographic and reproductive risk factors such as smoking, educational status, and parity [2,3], although these associations may be confounded by chronological age in studies that have no multivariate methods for their analyses. The present cross-sectional study estimated median age at menopause using status quo techniques and controlling for chronological age in rural El Salvador.

In January 2005, a structured questionnaire on menopausal status and risk factors was administered to 254 women aged 34–75 years at local heath clinics in the rural communities of Arcatao and San Pedro Perulapán organized by the nongovernmental organization *Basic Health: El Salvador.* "Postmenopausal" was defined as no menstruation for 12 months which was not secondary to injectable contraception, surgery, breastfeeding, or pregnancy. Median age at menopause was estimated using probit analysis. Associations between menopausal status and risk factors were examined in univariate and age adjusted logistic regression models.

Median age at menopause was 48.9 years (95% CI, 47.5–50.2). The unadjusted odds of being postmenopausal increased with higher parities, older ages at first birth, older ages at menarche, fewer years of education, and never having used injectable contraceptives (Table 1). None of these associations remained statistically significant in the age adjusted models.

* Corresponding author. 201B Holden Green, Cambridge, MA 02138, USA. Tel.: +1 781 244 7960.
E-mail address: aborchelt@gmail.com (A.M. Borchelt).

Table 1
Unadjusted and adjusted odds ratios of behavioral, demographic, and reproductive factors examined in relation to menopausal status.

Characteristics	Unadjusted OR (95% CI)	P value	Adjusted OR (95% CI)[a]	P value
Years of education (continuous)	0.88	0.004	0.93 (0.83–1.04)	0.20
Years of education				
0	Referent		Referent	
1–3	0.56 (0.29–1.04)	0.07	0.52 (0.28–1.23)	0.14
4_6	0.42 (0.21–0.86)	0.02	0.57 (0.23–1.40)	0.44
≥7	0.41 (0.17–0.98)	0.05	0.68 (0.21–2.19)	0.51
Meat consumption (no. of meals per week)	0.97 (0.80–1.17)	0.72	1.01 (0.80–1.28)	0.94
Employment outside home	0.69 (0.36–1.34)	0.27	0.98 (0.4–2.38)	0.97
Age at menarche, y	1.22 (1.04–1.42)	0.01	1.08 (0.89–1.31)	0.43
Number of pregnancies	1.12 (1.04–1.21)	0.003	1.05 (0.96–1.15)	0.30
Age at first birth, y	1.09 (1.01–1.17)	0.02	1.06 (0.98–1.16)	0.13
Ever smoked cigarettes	1.19 (0.43–3.29)	0.73	0.41 (0.08–2.11)	0.29
Ever used oral contraceptives	0.63 (0.33–1.20)	0.16	1.14 (0.49–2.63)	0.75
Ever used injectable contraceptives	0.17 (0.06–0.45)	<0.001	0.48 (0.15–1.49)	0.20
BMI (continuous)[b]	0.96 (0.91–1.02)	0.21	0.99 (0.92–1.06)	0.74
BMI[b]				
<25.0	Referent		Referent	
25.0–29.9	1.09 (0.58–2.04)	0.79	1.10 (0.50–2.41)	0.82
≥30.0	0.86 (0.41–1.78)	0.69	1.00 (0.34–2.93)	0.99

[a] Each model is adjusted for age.
[b] Body mass index calculated as weight in kilograms divided by height in meters squared.

Our estimate of age at menopause in rural El Salvador using an unbiased status quo technique is 1–3 years lower than that reported in industrialized nations. It is possible that exposures related to rural poverty in El Salvador may be leading to the acceleration of ovarian ageing. Living in a country with a low GNP has been associated with an earlier onset of menopause in Latin America [3].

After adjustment for age, none of the sociodemographic or reproductive risk factors we considered were associated with menopausal status, which underscores the importance of controlling for this potential confounder. Further research on the determinants of age at menopause using status quo techniques and controlling for age and other confounders, is needed in this population. Because earlier menopause increases the risk of some adverse health outcomes such as cardiovascular disease [4], access to preventative health care for postmenopausal women in rural El Salvador must be improved.

References

[1] Sievert LL. Menopause as a measure of population health: an overview. Am J Human Biol 2001;13(4):429–33.
[2] Sievert LL, Hauteniemi SI. Age at menopause in Puebla, Mexico. Hum Biol 2003;75 (2):205–26.
[3] Castelo-Branco C, Blümel JE, Chedraui P, Calle A, Bocanera R, Depiano E, et al. Age at menopause in Latin America. Menopause 2006;13(4):706–12.
[4] Hu FB, Grodstein F, Hennekens CH, Colditz GA, Johnson M, Manson JE, et al. Age at natural menopause and risk of cardiovascular disease. Arch Intern Med 1999;159 (10):1061–6.

Attitudes of Greek gynecologists to prescription of hormone replacement therapy for survivors of cervical cancer

Dimitrios Vavilis, Dimitrios Athanatos *, Theodoros D. Theodoridis, Grigorios Grimbizis, Theodoros Agorastos, Basil C. Tarlatzis

First Department of Obstetrics and Gynecology, Papageorgiou Hospital, Aristotle University of Thessaloniki, Thessaloniki, Greece

ARTICLE INFO

Invasive cervical cancer is the second most common gynecologic cancer worldwide [1]. Some of the women diagnosed with cervical cancer will already be menopausal, while a large proportion of those who are premenopausal will enter menopause because of extensive surgery or radiation. Hormone replacement therapy (HRT) would appear to be the treatment of choice for menopausal vasomotor symptoms.

No association between HRT in menopause and development of epithelial cervical neoplasia has been proven [2]. The aim of the present study was to evaluate the attitudes of Greek gynecologists to prescription of HRT for survivors of cervical cancer.

A questionnaire was randomly sent to 900 gynecologists registered as members of the Hellenic Society of Obstetrics and Gynecology describing the following case: "A 47-year-old patient had undergone radical hysterectomy with bilateral salpingo-oophorectomy at the age of 44 years because of cervical neoplasia FIGO stage IA2, grade I. Clinical, laboratory, and imaging follow-up was negative for any sign of recurrence. The patient presented with complaints of menopausal vasomotor symptoms." The gynecologists were asked the following questions: (1) would they would prescribe HRT? (yes/no); (2) if yes, which hormonal treatment would they prefer out of estrogen, estrogen/progestogen combination, or tibolone?; (3) if no, why?; and (4) if no, which alternative therapy would they suggest?

* Corresponding author. Papadiamanti 1, Kalamaria, Thessaloniki, Greece. Tel.: +30 23 1048 8051; fax: +30 23 1099 1510.
E-mail address: dimitriosathanatos@hotmail.com (D. Athanatos).