

Contraception and family planning at the extreme of reproductive life – climacteric

ZSUZANNA ILONA KATALIN DE JÁRMY DI BELLA¹, ANA MARIA HOMEM DE MELLO BIANCHI^{2*}, FABIO FERNANDO DE ARAUJO³,

MARAIR GRACIO FERREIRA SARTORI⁴, MANOEL JOÃO BATISTA CASTELLO GIRÃO⁵

¹PhD – Coordinator of the Sector of Family Planning and Adjunct Professor of the Department of Gynecology, Escola Paulista de Medicina, Universidade Federal de São Paulo (EPM-Unifesp), São Paulo, SP Brazil

²PhD – Graduate Student, Department of Gynecology, EPM-Unifesp, São Paulo, SP Brazil

³PhD – Coordinator of the Sector of Family Planning, and Affiliate Professor of the Department of Gynecology, EPM-Unifesp, São Paulo, SP Brazil

⁴MD – Associated Professor of the Department of Gynecology, EPM-Unifesp, São Paulo, SP Brazil

⁵PhD – Professor, Habilitation (BR: Livre-docência) – Full Professor of the Department of Gynecology, EPM-Unifesp, São Paulo, SP Brazil

SUMMARY

Menopause is an endocrine phenomenon characterized by gradual estrogen decline. This is a stage in a woman's life in which contraception is extremely important as the risks associated with pregnancy and childbirth increase, both maternal issues associated with higher incidence of comorbidities and issues related to fetal abnormalities, mitochondrial abnormalities, or genetic syndromes. On the other hand, there is a growing number of women who have postponed motherhood and need effective contraception, but without prolonging the return to fertility. Long-acting reversible contraceptives (LARCs), low-dose oral hormonal contraceptives and non-oral contraceptives are preferred. The levonorgestrel-releasing intrauterine system is a very good alternative that can maintain endometrial protection after menopause. Definitive methods such as tubal ligation and vasectomy are options for couples that already have their offspring. In this review, we present evidence for contraceptive indication and the effects of hormonal methods on climacteric including options for contraception, control of bleeding during perimenopause and of climacteric symptoms, as well as the transition from such methods to hormone therapy if indicated.

Keywords: contraception, climacteric, family planning.

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*Correspondence:

Address: R. Loefgreen, 1570,

Vila Clementino

São Paulo, SP – Brazil

Postal code: 04040-002

anamariahmb@yahoo.com.br

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INTRODUCTION

Climacteric is an endocrine phenomenon resulting from the depletion of ovarian follicles, which begins between 35 to 40 years extending to around 65, characterized by a gradual decline in estrogen. It corresponds to a phase in life with imprecise limits, between reproductive and non-reproductive years. At birth women have about 2 million primary oocytes and at menarche that number drops to 300,000 to 400,000. This process of atresia is continuous, including pregnancy and the years in use of hormonal contraceptives.¹

Menopause, in turn, is characterized as the last menstrual period in women's lives, and is a retrospective diagnosis established after a year of absence. Menopause is considered physiological when it occurs between 40 and 55 years, and the Brazilian average is around 50 years. After that, the woman is considered post-menopausal; the term menopausal should be avoided.

The menstrual cycle often becomes irregular, either by inadequate luteal phase or due to estrogenic peak without subsequent ovulation and formation of a *corpus luteum*. However, even during the climacteric, women are not free from ovulating and forming the *corpus luteum*, and therefore to progress with pregnancy.²

This is a stage in a woman's life in which contraception is extremely important as the risks associated with pregnancy and childbirth increase, both maternal issues associated with higher incidence of comorbidities and issues related to fetal abnormalities, mitochondrial abnormalities, or genetic syndromes, including the most prevalent, Down syndrome.

The incidence of hypertension and obesity, as well as metabolic syndrome, increases with age, and thus these are independent factors that increase the thromboembolic risks.¹⁻³

On the other hand, there is a growing number of women who have postponed motherhood and need effective contraception, but without prolonging the return to fertility when the contraceptive is ceased at the approximate age of 40 years.⁴

In the UK, the conception in women over the age of 40 jumped from 6.6 per 1,000 women in 1990 to 13.9 in 2011.⁵ In the USA, however, it was observed that 48% of pregnancies in women over the age of 40 were not planned.⁶

For women who have already produced an offspring, there is a higher frequency of indication of permanent contraceptive methods such as tubal ligation, vasectomy or tubal implants.

Considering these issues as a whole, it is clear how important it is to individualize contraception in climacteric women, which must be highly effective without increased metabolic and cardiovascular risks.^{2,4}

HORMONAL METHODS, CONTRACEPTIVE OPTIONS, AND CONTROL OF BLEEDING IN PERIMENOPAUSE AND OF CLIMACTERIC SYMPTOMS

The incidence of uterine leiomyoma and adenomyosis is higher in women in the fourth and fifth decades of life, and often they experience increased and prolonged menstrual bleeding associated with dysmenorrhea. The incidence of endometrial hyperplasia is also higher in this age group as there is constant estrogenic stimulation without adequate opposition of progesterone. Therefore, the use of combined hormonal contraceptives or progestogens alone can be used with a double function.^{1,3}

Non-oral methods are more interesting in this age group, but if combined pills are chosen, those with lower hormonal doses of ethinyl estradiol or estradiol are preferred. Certainly some women will present irregular bleeding, in which case the dose of estrogen should be increased, preferably not exceeding 30 micrograms of ethinyl estradiol daily.⁴

More recently, combined compounds appeared, with natural estradiol identical to that produced by the ovaries. They may be single-phase containing norgestrel, or multiphasic, with estradiol valerate and dienogest. It is not known yet if the risk of thromboembolic events will be lower than in ethinyl estradiol users. In general, non-users of hormonal contraceptives have a risk between 5 and 10/100,000 women of thrombotic event, while users of low-dose hormonal contraceptives, including practically all oral contraceptives currently available, have a risk between 20 and 40/100,000 women, and women in the pregnancy-puerperal cycle have a risk of 60/100,000.

Most studies found no clinically significant metabolic changes associated with the use of pills, but 1/3 of wom-

en already have levels of cholesterol, triglyceride or blood glucose higher than normal at this age.⁷

While endogenous estrogen protects younger women, administration of estrogen in the form of contraceptive pills doubles the risk of stroke, in addition to increasing risks associated with advancing age, smoking, hypertension, obesity and migraine with aura.⁸

Greater concern is addressed to thromboembolic events, both arterial and venous, with increased incidence in climacteric women. The lowest possible dose of ethinyl estradiol or estradiol associated with progestins yielding lower thromboembolic risk, such as levonorgestrel and norethindrone, are recommended. Arterial thrombotic events such as heart attack and stroke, and venous thromboembolism are more common with combined ethinyl estradiol and drospirenone, and have similar incidence in users of vaginal ring, contraceptive skin patches or low-dose ethinyl estradiol pills compared to non-users.⁹⁻¹¹

Women older than 35 years and smokers have formal contraindication to combined hormonal methods due to increased risk of thromboembolic events.^{9,10}

Control of bleeding is one of the benefits of using combined hormonal contraceptives, also in women with uterine myomas and adenomyosis.¹

For those who prefer to menstruate less often or not to menstruate, there is the option of extended system, which consists of continuous use of combination pills. This is an interesting option for climacteric women with vasomotor symptoms, such as hot flashes and night sweats, which often appear during the pill-free interval.^{4,12}

Before prescribing hormonal compounds, it is necessary to evaluate the endometrium, myometrium, and ovaries and rule out any gynecological disorders that may contraindicate the method, such as endometrial hyperplasia.

In healthy women, non-obese and non-smokers, the use of combined hormonal contraceptives (pill, patch or vaginal ring) is recommended until menopause, a year after the last menstrual period.^{1,2,12}

In climacteric and obese women, the use of combined hormonal contraceptives should be done with caution, since both obesity and age are independent risk factors for thromboembolic events.^{1,2}

With regard to bone metabolism, there is less demineralization and higher bone density in climacteric women users of combined oral hormonal contraceptives, even with doses as low as 20 micrograms of ethinyl estradiol. Although the studies are not conclusive, vaginal rings, patches, and minipills have no effect on bone density.^{13,14}

Prescription of progestogen methods alone (pills, implants, quarterly injections or intrauterine system) in cli-

macteric women is of great value, particularly in smokers, diabetics with vascular disease, in women with severe lupus erythematosus, women with migraine with aura, cardiovascular diseases and in the obese. The possibility of use in climacteric women is questioned if there is a previous episode of venous thrombosis or when they have genetic mutations that predispose hypercoagulable states; however, prescription of hormones in this situation is usually avoided.^{5,13,14}

Progestogens taken alone and in low doses are a safe option for women in their late reproductive years, and non-oral methods such as etonogestrel implants and levonorgestrel-releasing intrauterine system have been gaining supporters in the last decade. In the first 6 months of use, menstrual bleeding is reduced by 70%, and in over 5 years, 50% of the users cease to menstruate. Moreover, it protects the endometrium, preventing hyperplasia for up to 7 years. Obese women should avoid quarterly injections because high doses of medroxyprogesterone cause greater weight gain in this population in particular.⁷

Taking a low-dose progestogen alone is a method with virtually no contraindications, although this is the only category 4 in the current eligibility criteria for breast cancer. The minipill failure rate is very low in climacteric women, to the order of 0.3 per 100 women-year.²

Negative aspects include a lower effect on menopausal symptoms compared with combined hormonal methods, and non-cyclic control of the bleeding. Still, the possible irregular bleeding caused by the progestogen method alone is less harmful than the effects caused by perimenopause.

Depot medroxyprogesterone acetate can decrease bone mass if used for a long time, especially by young women, but this effect during perimenopause is mild and some women experience some improvement in climacteric symptoms as an additional effect. Systematic reviews show slight decrease in bone density in women in perimenopause, but this is not associated with increased risk of bone fractures, and this effect of medroxyprogesterone disappear when the medication is ceased. Caution is indicated as well as evaluation of the metabolic profile of these women, as the negative effect of medroxyprogesterone at high doses is questioned.^{13,14}

TRANSITION HORMONAL CONTRACEPTIVE METHOD TO HORMONE THERAPY

From a practical point of view, it is difficult to characterize menopause in users of combined hormonal contraceptives and, thus, it is recommended to use the method until around 50-55 years. Some authors state that contraceptives should be used until 60 years of age in wom-

en menstruating, since there are reports of spontaneous pregnancy until 59 years.^{15,16}

In women using non-hormonal methods, it is recommended to stop contraception 1 year after the last menstrual period when the patient is older than 50 years, or after 2 years in women under 50 years of age.

In women using progestogens alone, follicular stimulating hormone (FSH) dosage can be performed, since the composition does not reduce the levels of this hormone. Two FSH dosages greater than 30 mIU/mL point to a conduct of maintaining contraception for another year in women older than 50 years, and for 2 years in women younger than 50 years.

In users of combined hormonal methods, FSH can be measured 15 days after the end of the hormonal method; levels greater than 30 mIU/mL in two separate exams dismiss fertility. FSH dosing is recommended on the 6th day of the pill-free interval, annually, from the age of 50.¹²

Transition from hormonal contraception to hormone therapy must be done carefully and should not be delayed, as the lowest estrogen dose in contraceptives is four times greater than the standard dose in postmenopausal hormone therapy.

NON-HORMONAL METHODS

Copper intrauterine device (IUD) is a convenient contraceptive method for this age group due to its long action of up to 10 years, but some women experience more intense menstrual cramps and excessive bleeding with this method. It does not act favorably on climacteric symptoms either. After menopause is confirmed, removal of the IUD is suggested.

The use of male condoms can be suggested to climacteric women, since their risk of pregnancy is lower, but there is a higher incidence of erectile dysfunction among partners at that age, and using a condom can worsen this problem.

Methods definitive, on the other hand, are good choices, but surgical and anesthetic risks to undergo tubal ligation are not negligible with advancing age. Placement of tubal implants using hysteroscopy is promising but still incipient in our midst. Moreover, there is the need to wait 3 months and have a hysterosalpingography performed, an uncomfortable examination in order to confirm bilateral tubal obstruction. Vasectomy, when accepted by the partner, is a good choice for this age group, but will not bring benefits for menopausal symptoms.

Women experiencing perimenopause should be advised on the risks of sexually transmitted diseases and HIV infection, as many go through the end of their marriages and previous relationships, paying little attention

to this issue. Women who have no steady partner are recommended to use male or female condoms combined with another very effective contraception method.¹⁴

Finally, emergency contraception in the form of progestogen administration up to 72 hours after intercourse can be done in this age group, despite the high dose of progestogen, since the acute use does not expose women to greater cardiovascular risk.^{1,2}

In short, climacteric is a period of psychological, hormonal and organic changes and contraception is one of the major concerns that accompany this stage of life among women. Most of the methods may be prescribed, with preference given to low-dose oral hormonal contraceptives and non-oral routes of administration. Age is not a contraindication for any contraceptive method. The levonorgestrel-releasing intrauterine system is interesting because it will protect the endometrium even after menopause. Definitive methods are suitable for couples who have already produced their offspring.

There is no consensus about the time that contraception can be stopped safely in these women. It is interesting to emphasize the importance of barrier methods due to the increased prevalence of HIV and other sexually transmitted diseases in this age group.

RESUMO

Anticoncepção e planejamento familiar no extremo da vida reprodutiva – climatério

O climatério é um fenômeno endócrino caracterizado pelo gradativo declínio estrogênico. Esta é uma fase da vida da mulher em que a contracepção tem crescente importância, uma vez que crescem os riscos no ciclo gravídico-puerperal, seja por questões maternas, associadas à maior incidência de comorbidades, seja por questões ligadas a malformações fetais, anormalidades mitocondriais ou síndromes genéticas. Por outro lado, é cada vez maior o número de mulheres que tem postergado a maternidade, necessitando de contracepção eficiente; porém, que não prolongue o retorno à fertilidade. Dá-se preferência para métodos contraceptivos de longa duração (LARC), baixas doses hormonais orais e administradas por vias não orais. O sistema intrauterino liberador de le-

vonorgestrel é ótima alternativa, podendo manter proteção endometrial na pós-menopausa. Os métodos definitivos, como laqueadura e vasectomia, são opções para o casal com prole constituída. Nesta revisão apresentamos evidências para indicação e efeitos dos métodos hormonais no climatério, como opções contraceptivas, para controle de sangramento perimenopausa e de sintomas climatéricos, bem como a transição destes para a terapia hormonal quando indicada.

Palavras-chave: anticoncepção, climatério, planejamento familiar.

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