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Approaching Menopause: The Ovulation Method

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Summary: Many women become increasingly afraid of pregnancy as they approach menopause. Their anxiety can be considerably relieved if they are given an explanation of what is happening and of the significance of various changes in symptoms referable to the reproductive system. They can be assisted to achieve or avoid pregnancy by the "infertility awareness" that comes with an understanding of the Ovulation Method. The patterns of infertility may result from (1) absence of ovulation, or (2) failure of the hormones to elicit a cervical response even when ovulation occurs; in either case the *basic infertile pattern* is persistent.

BY STRICT definition, menstruation is the bleeding associated with the shedding of the endometrium about two weeks after ovulation. However, the occurrence of "anovular cycles" at any time during the reproductive period of life is well known, and it is conventional to refer to the periodic bleeding that may still occur as "anovular menstruation." For a year or so after menarche, the cycles are anovulatory (Brown 1978), and as the woman approaches menopause an increasing number of cycles also are anovulatory. Indeed, the menopause is very much like the menarche in reverse: the plasma level of estrogens fluctuates considerably for a few years before menarche and for some years beyond menopause. Bleeding may result from prolonged

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high levels of estrogen ("breakthrough bleeding") or from an abrupt fall in the estrogen level ("withdrawal bleeding"); it is reasonable for us to continue to use the term "menstruation" or "menstrual period" for this intermittent bleeding, as does the woman herself.

Not every woman in the premenopausal group desires to avoid pregnancy; some want one more child, and some newlyweds hope to start a family. Since a woman's fertility declines steeply after the age of forty, those who wish to conceive should be taught to recognize the indications of fertility.

If coitus is to continue in the absence of regular ovulation, those who wish to avoid pregnancy must be able to identify infertility.

Some couples entering middle age have thought that pregnancy can be avoided only by total abstinence. We must assure them that if they will spend one month learning the Ovulation Method, they will then be able to enjoy security and freedom for coitus until they have reached menopause and the state of lasting infertility.

It is now a matter of common knowledge that it is the occurrence of ovulation—not menstruation—that is the true indicator of fecundity. It is also widely known that sperm-supporting cervical mucus is essential for fertilization¹ and that the absence of mucus is, even at ovulation, a sign of infertility.² Rising estrogen levels may fail to produce the usual response from the cervix, and this failure is one of the initial causes of inability to conceive.

Another indication of infertility is a luteal phase of less than ten days. This shortened phase is often equated with a "poor corpus luteum"; but the cause may be more subtle, and "replacement therapy" with synthetic progestins is likely to aggravate the infertility.³

As ovulation becomes more and more infrequent during the approach to menopause, "postovulatory infertility" becomes a rare event. For this reason the recognition of preovulatory (or anovulatory) infertility is indispensable if the normal sexual relationship is to continue. Preovulatory infertility is recognized in the *basic infertile pattern* of the cervical mucus, as described in the Ovulation Method.

In anovulatory cycles and the preovulatory phase of long normal cycles, estrogen levels sometimes reach two or three times the level of the estrogen peak in the fertile cycles of younger women. If the cervix responds, the woman will recognize "patches" of mucus of gradual onset and offset, lacking the characteristic abrupt change after the Peak symptom (a change produced by progesterone after ovulation). Thus, the absence of the Peak symptom indicates that ovulation has not yet occurred,⁴ and the preovulatory infertility pattern reappears. Sometimes the follicular ripening may continue, in which case the woman will observe an ovulatory mucus pattern, menstruation then following within two weeks.

Bleeding

Some women mistakenly think that as long as intermittent bleeding is occurring they must be capable of conceiving. Unless pregnancy occurs, menstruation will almost invariably follow ovulation—the rare exception being Asherman's syndrome, in which the endometrium has been radically damaged by surgical procedures (including abortion) or by a medroxyprogesterone (Depo-Provera) injection.⁵ Bleeding, however—even reasonably regular “menstrual periods”—may occur without ovulation. The menstrual periods may have already become altered in cycles with a short luteal phase as well as in anovulatory cycles. Spotting before the heavier flow, prolonged spotting after menstruation, and heavy bleeding (“flooding”) are part of the symptomatology of declining fertility. When high estrogen levels are sustained, unusual endometrial growth results until the surface layers degenerate, causing oozing, spotting, or (sometimes) heavy bleeding. This “breakthrough bleeding” is most likely to occur when ovulation has been suspended for a considerable time.

Breakthrough bleeding may precede ovulation by a few days, and the possibility that bleeding marks the time of fertility emphasizes the need to watch for cervical mucus at the same time, particularly in the absence of a preceding Peak symptom. Bleeding that occurs at about the time of ovulation will cease with the rapid rise of progesterone.

Women who habitually suffered from painful menstrual periods (dysmenorrhea) in their younger years will now observe that in some cycles the menstrual period is painless and that it was not preceded by the customary Peak symptom. Those who often noticed a discharge of mucus a day or so before the menstrual period now will notice its absence in these anovulatory cycles; this mucus marks the beginning of the breakdown of the “secretory endometrium” that develops after ovulation under the influence of progesterone.

Hot Flushes

Hot flushes (“flashes”) are *sudden* episodes of heat, especially about the head and neck, that are sometimes accompanied by sweating; they may occur occasionally or even frequently during the day or night, disturbing sleep and tending to cause irritability and fatigue. While they are a definite sign of infertility on the day of their occurrence, hot flushes cannot define the end of fertility, since fertile cycles continue intermittently during this phase of the woman's life. Hot flushes are associated with very low plasma levels of estrogens and therefore with “dry days” or an infertile pattern of discharge. After many months of low estrogen, dry days, and hot flushes, the estrogens may rise again and a sequence of apparently normal, fertile cycles ensue. When the woman has achieved insight into the natural mani-

festations of her reproductive physiology, she is not astonished by the return of menstrual periods after a long absence. She will have learned to predict from the mucus pattern that bleeding will occur and that she should not regard it as "postmenopausal bleeding" requiring investigation.

Breast Tenderness

Premenstrual lumpiness and tension in the breasts in ovulatory cycles, a common experience for many women, is a progesterone effect upon breast tissue.⁶ During premenopause, women who are familiar with this symptom will experience occasional cycles without it; those who are familiar with the ovulatory Peak symptom of the cervical mucus will link its absence with the disappearance of the breast symptoms, because both are progesterone-dependent and therefore absent when the corpus luteum is absent. Occasionally, bizarre patterns of breast tenderness will occur, even beginning with ovulation and occupying the entire luteal phase. The size of the breasts may increase, and intermittent but severe discomfort, sufficient to disturb sleep, may last for many months.

All these changes in the pattern of breast tenderness are a significant indication of declining fertility.

Additional Information

A woman may have noticed a recent increase of weight, with alteration of the body shape, loss of the waistline, and a decrease of tissue elasticity. She may experience instability of mood, distressing depression, anxiety, and irritability. Many of these emotional symptoms are engendered by physical phenomena that the woman does not understand, and they can be alleviated by sympathetic and knowledgeable counseling. Unusual irregularity of the menstrual cycles and, perhaps, unexpected infertility may also point to the onset of the climacteric. Occasionally an ovulatory cycle of 20-21 days will have a luteal phase of normal length, making rhythm-method calculations more unreliable than previously.

Treatment

Alleviation of anemia resulting from excessive bleeding is essential. The flooding experienced by many women is distressing and debilitating. Irregular shedding of the uterine lining and severe clotting may require curettage. Abnormal bleeding makes gynecological referral mandatory.

It is not good medicine to use synthetic progestins to extend unusually short luteal phases, nor does such medication come within the definition of natural family planning. Doctors sometimes give these progestins to establish an artificial luteal phase, ignoring the possibility of interfering with a naturally late ovulation.

Since synthetic progestins affect the endometrium, fallopian tubes, and cervix as well as the hypothalamus and pituitary gland, they not only interfere

with the mechanism of ovulation and disturb the mucus pattern but also increase the risk of abortion if ovulation and conception occur. Progestins can throw the endometrium out of phase with ovulation and prevent implantation of the embryo. Fetal abnormality is also a well-documented accompaniment of progestin administration.

Additionally, these drugs can increase the vascularity of the endometrium, causing erratic, profuse bleeding that often makes differential diagnosis difficult and imposes the need to eliminate the possibility of cancer.

It is very undesirable to manipulate the cyclical patterns that fall within the range of normal variations of the climacteric. Women who have been adequately instructed in the Ovulation Method can usually understand what is happening. The woman's physician, too, should become expert in understanding the mucus patterns of fertility and infertility; for, while it is necessary to investigate pathological conditions, normal physiological processes should be left undisturbed.

If, for example, a woman were to report hot flushes occurring at the same time as cervical mucus of the type ordinarily noted to accompany ovulation, her physician would suspect an abnormality of the cervix.

It is known that oral steroids administered to "regulate the cycles" and "treat" dysmenorrhea in adolescents may cause prolonged sterility. The poignant story of vaginal adenosis and adenocarcinoma in female offspring of women treated with DES (diethylstilbestrol) during pregnancy (Herbst et al. 1970, Gunning 1976) is still unfolding. DES was first given when a threat of miscarriage (spontaneous abortion) was believed to exist, and later on as a "morning-after pill" to induce abortion. Probably the basic error is to describe these chemical compounds as "hormones"; they have some actions that resemble those of natural hormones but many that do not. Their use as "replacement therapy" is highly irrational, because they tend to aggravate, not remedy, any deficiency of the natural hormone.

Even postmenopausal osteoporosis cannot be regarded any longer as a condition that the administration of synthetic estrogens would benefit.

We should not overlook simple measures. A regular daily rest sometimes helps to relieve insomnia at night. A good physician and a compassionate NFP teacher can be very helpful by explaining the physiological changes to both husband and wife, encouraging them to cope with a situation that is destined to pass.

The extra effort the husband must make to understand and help his wife through this sometimes difficult period brings its own reward into the marriage. To be treated generously when she is feeling ungenerous will later evoke the wife's generous and loving response; thus, many couples will prove to be their own best counselors. The woman may need help to adjust to losing her vital fertility, so that she does not think of herself as useless, inade-

quate, or "finished." The man must understand that anxiety is prompting his wife's seeming rejection, that when she pushes him away she is really asking for his love and affection.

Infertility Awareness Is the Key

By teaching infertility awareness, the Ovulation Method provides the key to the natural regulation of fertility during the climacteric. The woman is asked to make the usual record, while the couple abstain from all genital contact for a maximum of four weeks.

1. The teacher explains the value of mucus observations, noting that fertility depends upon the presence of satisfactory cervical mucus, which is essential for sperm survival.
2. She teaches the rudiments of reproductive anatomy and physiology, including the time relationship of ovulation to the Peak symptom of the cervical mucus and the time-span of ovum survival. Many women, having raised a family and reached middle age without ever learning much about their own bodies, may now be too shy or self-conscious to ask questions or talk about their symptoms.
3. She asks questions about the woman's current experience of the mucus symptom and how it compares with her previous experience.
4. She encourages the woman to be confident that her recorded observations of how the mucus looks and how it feels at the vulva will form an adequate basis for the avoidance of pregnancy (if that is her objective). A faithful record of events is necessary, the teacher interpreting it at a followup interview. Since internal examination is not a part of the Ovulation Method, the rules have been formulated for observations made outside the vagina.
5. The woman need not experience a Peak symptom to understand the method. She may not ovulate again; if she does ovulate, her cervix may not respond to the hormonal events surrounding ovulation. Without the secretion of satisfactory cervical mucus, she will be infertile *even if she ovulates*;⁷ on the other hand, if this type of mucus is secreted, its fluidity *will ensure her noticing it at the vulva*.⁸

It has long been known (Atkinson et al. 1948, WHO 1972) that the cervical production of mucus declines at menopause, and our own studies have demonstrated that even with estrogen levels more than twice the highest peaks ordinarily observed in fertile cycles, no mucus secretion may be evident at all.

If the woman has been keeping a basal-body-temperature record, she may have noticed an apparent discrepancy between the absence of mucus and a biphasic temperature pattern suggesting ovulation. Her observations do not indicate that the mucus has failed to tell her

she is fertile. It has told her she is infertile in spite of ovulation.⁹ She needs to be encouraged to trust the information the mucus pattern supplies, so that she will be free of anxiety when ovulation ceases altogether.

6. Decline in fertility can manifest itself in many ways. It is not only unnecessary but undesirable (because confusing) to present all the possibilities to the woman. She needs only to understand her own chart, and two to four weeks after beginning to chart she should be confident about recognizing infertility.

It is important that the woman thoroughly understand the basic infertile pattern.

Rules for Avoiding Pregnancy

The early-day rules of the Ovulation Method provide for situations in which the preovulatory phase of the cycle lengthens, those in which ovulation fails to occur, and those in which the cervix does not respond to estrogens. The rules are easy to understand:

The couple should confine coitus to evening or night so that the wife can make observations during the day.

They should regard dry days before ovulation as the basic infertile pattern.¹⁰

Because seminal fluid and vaginal transudates may obscure the presence of mucus on the day following coitus, the couple should avoid genital contact on that day.

If the woman sees or feels mucus at the vulva, or if spotting or bleeding occurs, the couple should avoid genital contact, allowing a further three days of basic infertile pattern (until evening of the fourth day) to be sure of what is happening.

Should the woman observe an ovulatory pattern of mucus and the Peak symptom, menstruation will occur within the next two weeks if the couple have followed the rules for avoiding pregnancy. Infertility exists from the beginning of the fourth day after the Peak symptom until the following menstruation.

Sometimes the chart may show more days of mucus than dry days, which would render the rules as applied to dry days unduly restrictive. If mucus is occurring as frequently as this, observations over a further two weeks will enable the woman to recognize infertility from the unchanging characteristics of the mucus. The teacher then incorporates these days of unchanging mucus into the basic infertile pattern and explains the rules to include them. Therefore, the couple need to avoid genital contact only on any day or days of *different* mucus (or bleeding) and for a further three days after the end of the changed mucus, resuming intercourse at the end of the fourth day.

The mucus that indicates infertility will vary from woman to woman. It may be dry, sticky mucus for one; for another, it may be creamy or flaky. Occasionally there may even be a continuous watery discharge with no mucus at all. Whatever form it takes, if it continues without change for two weeks or more, either continuously or alternating with dry days, it indicates infertility.¹¹

Sometimes a chart may show continuous mucus with variable characteristics. The following possibilities should be considered:

1. An anxious woman may be excessively concerned with unimportant details. Advice to concentrate on the feeling at the vulva is essential.
2. The woman may be exploring inside the vagina and recording "wetness" or other insignificant observations.
3. If the woman wants to avoid coitus altogether, she may deliberately avoid finding a solution. This couple need time and understanding.
4. A pathological condition—cervical cysts or erosions or vaginal infections—may be present. The woman may have used spermicidal agents or deodorants. It may be necessary, as with frequent, unexplained bleeding, for the teacher to refer the woman to her physician.

In the learning situation, total abstinence should rarely be necessary beyond one month, although a very anxious woman may be slow to gain confidence and to take full advantage of her new insights. When the woman has entered the climacteric, recognition of preovulatory (or anovulatory) infertility through studying the cervical mucus pattern and application of the early-day rules of the Ovulation Method comprise the only natural technique—other than total or unduly restrictive abstinence. For many months—perhaps years—the woman will notice occasional mucus days; eventually they will cease. Long before this time she will have lost her anxiety, will have stopped wondering, "When will it all be over?" She will simply be able to recognize continuing infertility.

There is no need for excessive concern about the underlying physiological mechanisms responsible for the woman's physical symptoms. Deliverance from uncertainty about fertility and infertility is enough to restore equanimity to most couples.

A collaborative study with Prof. J. B. Brown in Melbourne has demonstrated that estrogen levels continue to fluctuate for years after cessation of menstrual bleeding (Brown 1978); fluctuating symptoms mirror this finding. When low estrogen levels exist for a prolonged period, a couple may complain that dryness in the vagina causes discomfort during coitus; this phenomenon is due not only to absence of cervical mucus but also to changes in the epithelial lining of the vagina. There is, however, a neurogenic reflex causing a transudate through the vaginal wall that satisfactorily lubricates the vagina; this reflex operates in the emotional atmosphere that is normal

to a happy marriage, and it is just as effective during infertility as during fertility and after menopause as before.¹² Thus, the treatment for the dry vagina is not the administration of estrogens nor the use of lubricating jellies and creams, but rather the spouses' closer and more loving attention to each other.

Hot flushes are embarrassing and fatiguing when they occur frequently; but they tend to occur intermittently, and eventually they cease altogether. Women subject to migraine often notice an exacerbation of this disorder at menopause; administration of synthetic hormones tends to aggravate the migraine. In many cases, nonestrogenic treatment can relieve hot flushes.

Severe atrophy of the tissues at the base of the bladder and around the external opening of the vagina may produce urinary symptoms and, occasionally, severe itching. Intermittent local estrogen therapy can be valuable.

Hormonal medication with synthetic estrogens and progestins should be prescribed only by experts because of the known dangerous effects (such as endometrial carcinoma) of these drugs. The risk of this medication's producing vascular complications affecting the heart and brain is higher for older than for younger women (Burger 1977).

Doctors tend to regard the menopause as a deficiency disease and to institute routine replacement therapy. While such therapy may be advisable in some cases after menopause, it seems prudent to take a conservative attitude toward medication. Estrogen replacement should not be given before menopause, because natural hormones are circulating until then. To administer additional estrogen disturbs the natural mucus pattern and can mislead the woman keeping an Ovulation Method record. The ovaries are not "failing"; *they are functioning normally*.

In 1969 we undertook a consecutive prospective study of 98 women aged between 39 and 52 years, following them for an average of four years.¹³ Seventeen of these women had come for advice after an unexpected pregnancy, an indication of the unreliability of rhythm-method calculations when irregularity outside previous experience occurs. One woman dropped out of the study because she required a hysterectomy. After being followed for more than twelve months, another woman tested the indications of fertility and became pregnant, thus verifying the reliability of the rules. There were no other pregnancies. From this same group we have drawn recruits for later studies of the postmenopause.

Of these 98 women, 55 were 45-52 years old. Forty-eight had their urinary levels of estrogen and pregnanediol estimated for six weeks or more, and 23 of these 48 exhibited chemical evidence of ovulation during that time. Seven of the 23 who ovulated had estrogen levels greater than 100 $\mu\text{gm}/24$ hrs. (In Professor Brown's laboratory the estrogen peak in normal fertile cycles of younger women ordinarily varies between 40 and 100 $\mu\text{gm}/24$ hrs.)

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As long as indications of possible fertility persist, conception is also possible unless there is total genital separation. For true happiness, the couple must continue their loving acceptance of each other, as well as of any child. Then, when child-bearing becomes impossible, the lasting strength of their love will enrich the years ahead.

Notes

- 1 See, for example, Carl G. Hartman, *Science and the Safe Period* (Baltimore: Williams & Wilkins, 1962), pp. 70-72.
- 2 Our own practical experience with the Ovulation Method.
- 3 U.S. Food and Drug Administration. Details of patient labeling, effective 3 April 1978. Also personal communication from Prof. J. B. Brown and our experience in teaching the O.M. to "post-Pill" women.
- 4 Practical experience with the O.M.
- 5 Case report at Royal Women's Hospital, Melbourne, 1978. Persistent amenorrhea is reported from areas where Depo-Provera has been used.
- 6 These phenomena are present in ovulatory cycles and absent in anovulatory cycles of the same woman.
- 7 Our own practical experience with the O.M.
- 8 Estrogen mucus flows (see Odeblad). Mucus that is formed under the influence of progesterone sticks in the cervix. Dr. T. W. Hilgers has demonstrated that the observations at the vulva accurately reflect what is occurring at the cervix. *Obstet. Gynec.* 53 (1979): 1-12.
- 9 Our own practical experience.
- 10 Low levels of estrogen correlate with the beginning of the mucus pattern, confirming practical experience.
- 11 Hormonal correlations have confirmed the practical observations.
- 12 Marriage counseling experience. Another reproductive-tract reflex is the uterine contraction produced by nursing, which is inhibited by fear, anxiety, and so on.
- 13 Ovulation Method Workshop, St. Margaret's Hospital, Sydney, 1973.

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