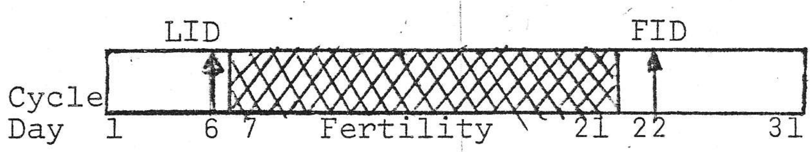
WHAT ABOUT RHYTHM?

Konald A. Prem, M.D.

The "Rhythm" system based on the research of Hermann Knaus and Kyusaku Ogino placed the occurrence of ovulation between the 12th and 16th day prior to the menstrual flow relating this event to the menses that follows rather than the preceding one. Allowing for a three day life of the sperm and a one day life for the released ovum, the Ogino-Knaus system calculated the last infertile day prior to ovulation and the last fertile day after ovulation. Because the length of any particular cycle cannot be predicted accurately in advance, the fertile and infertile days of the menstrual cycle must be calculated on records of past menstrual cycle length and take into consideration all possibilities of cycle length based on the woman's past experience.

Calculations for infertile or fertile segments of the cycle for a woman with a not unusual cycle variation of 25-31 days is shown in Figure 1.

Cycle Range 25-31 Days



LID = Last infertile day prior to ovulation

FID = First infertile day after ovulation

Figure 1. Ogino-Knaus Method

About 75% of women's menstrual cycles are sufficiently regular to use the rhythm system with considerable hopes of success. However, it is obvious that cycles shorter than the longest used in the calculation allow few and some times no infertile days. Even when cycles are reasonably regular and hope of success is great, ovulation outside of the range used by Ogino and Knaus creates a risk of pregnancy.

The study of the basal thermal patterns of women using the sympto-thermal system for fertility control has clearly demonstrated the reasons for the many failures of the traditional or "calendar" (Ogino-Knaus) rhythm. A number of actual illustrative situations will clearly establish the reasons for the superiority of the sympto-thermal method.

In the first situation, ovulation occurs later than expected in a menstrual cycle of normal length. This late ovulation is reflected by a post-ovulatory temperature elevation sustained for less than the usual 11 to 14 days. This kind of temperature pattern has frequently been observed among women of demonstrated fertility with cycles of varying lengths. Of the cycles that Marshall[1] recorded among fertile women, 17.6 percent or about one woman in six had a post-ovulatory temperature elevation of less than 11 days. A woman with this thermal pattern will consistently repeat it, or a minor variation of it, each cycle.

Let us assume as an illustrative example a woman with a cycle variation of 28 to 33 days and a ten day post-ovulatory temperature elevation. Using the traditional calculation for post-ovulatory infertile days of "calendar" rhythm based on this cycle range, the last fertile day after ovulation is cycle day 23 (10 days subtracted from the longest cycle) and the first infertile day after ovulation as day 24. The basal temperature chart shown in Figure 1, however, documents day 24 as the day preceding the first day of temperature elevation.

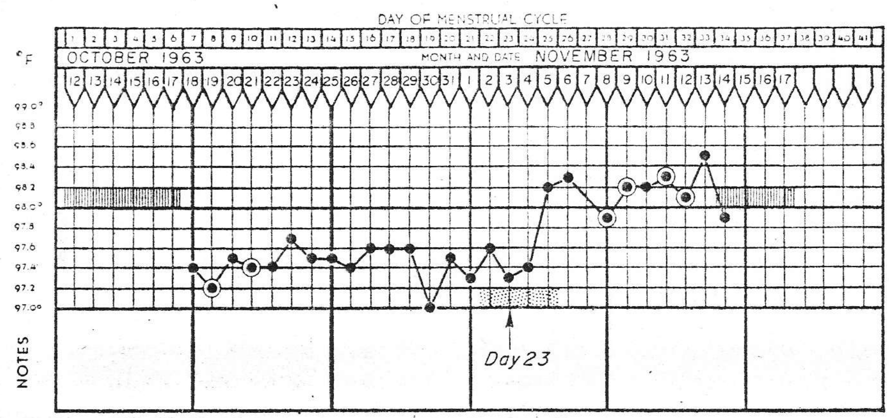


Figure 2. Late Ovulation in a Cycle of Normal Length.

Coitus on this day carries a high risk of pregnancy among very fertile couples because it is one of the most fertile days of the cycle. The unreliability of the "calendar" rhythm calculation in this situation is obvious. The woman who recorded this graph demonstrated this problem beautifully. Both she and her husband understood "calendar" rhythm and practiced it as they had correctly learned it. Yet five pregnancies occurred in the first seven years of marriage. When this basal body temperature graph demonstrated this late ovulation pattern and the calculation of the infertile period was shifted slightly toward menstruation to adjust for the later ovulation, more than 60 consecutive menstrual cycles followed without a pregnancy. All were documented by temperature graph and each exhibited this shorter post-ovulatory thermal plateau.

In a less frequent situation, ovulation may regularly occur earlier than expected in a cycle of normal length and the post-ovulatory temperature is elevated for more than the usual 14 or 15 days. Marshall[1] found that four percent of the fertile women in his study exhibited this variation.

One woman of normal fertility documented a 16 to 23 day temperature elevation after ovulation in each cycle. In her situation ovulation occurred much earlier than anticipated, and at a time calculated as "safe" by the "calendar" method.

This actual case history is illustrated in Figure 3. The woman's menstrual history indicated a shortest cycle of 33 days and a basal temperature recording showed a sustained thermal rise of 20 days.

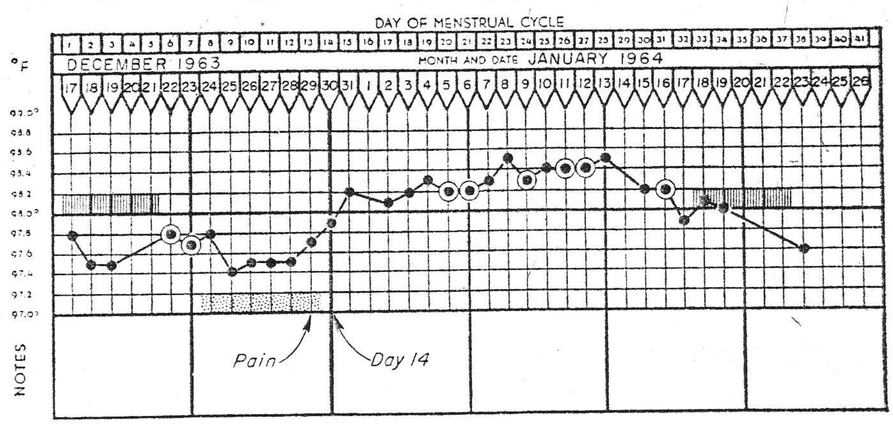


Figure 3. Early Ovulation in a Cycle of Normal Length.

The last infertile day before ovulation is calculated by the "calendar" system as day 14 (19 days substracted from the shortest cycle). By this day the temperature is already elevated indicating a much earlier ovulation had occurred--at a time calculated as infertile by the "calendar" method. This cycle pattern, however, has an obvious advantage--the post-ovulatory infertile period is several days longer.

There is no easy way to reliably detect these less usual ovulation patterns among women with normal cycle lengths except by basal body temperature recordings. When repeated "calendar" rhythm failures occur despite a full understanding of the technique, one of these less usual ovulation patterns may be responsible.

No matter how regular menses are in one woman's experience an occasional very late ovulation may occur that voids "calendar" rhythm calculations. A very late ovulation is illustrated in the situation illustrated in Figure 4 in which 14 consecutive previous cycles varied in length from 26 to 30 days--a very normal cycle length variability. By "calendar" rhythm calculations for this cycle range, the fertile period extended from the 8th to the 20th cycle day. In the 15th cycle the 21st day is the first post-ovulatory day calculated as infertile.

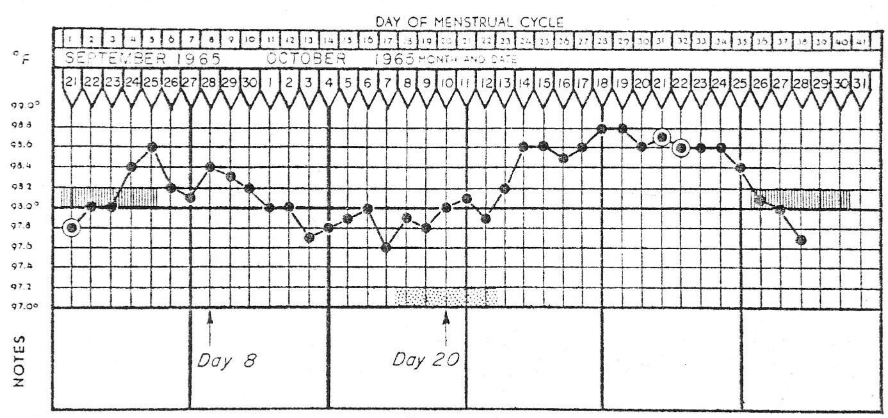


Figure 4. Unexpected Late Ovulation

This day precedes the shift of the basal body temperature graph by two days and although declared safe by "calendar" calculations, it and the succeeding day are probably the two most fertile days of that cycle. Because a basal temperature graph was kept of this cycle, the very late ovulation was detected and a possible pregnancy averted.

Just as there is a failure of "rhythm" in the previous illustration because of an unexpected late ovulation, an unexpected early ovulation can also result in a failure to the "rhythm" system. Another illustration in Figure 5 from an actual case emphasizes this possibility. In the temperature recording the last infertile day prior to ovulation had been calculated as day 6 on the basis of a history of a shortest menstrual cycle of 25 days (25-19).

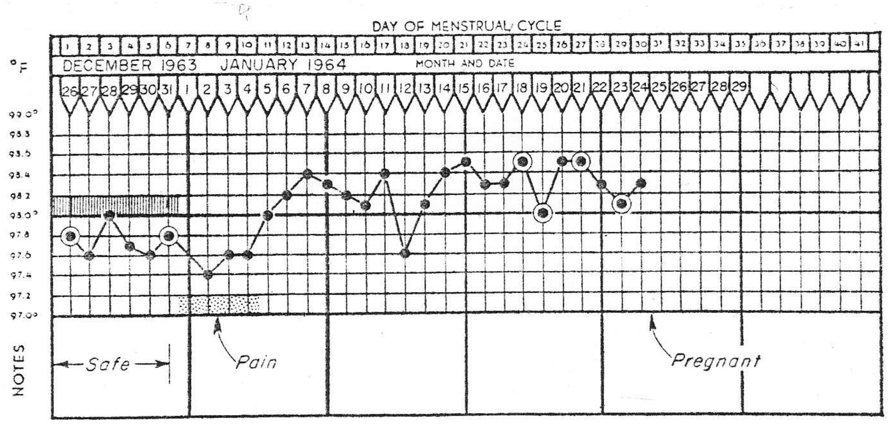


Figure 5. Unexpected Early Ovulation Resulting in Pregnancy.

Coitus on the last supposedly safe day resulted in pregnancy. The unexpected early ovulation occurred about day 8 or 9, well within the accepted three day period of sperm viability.

BIBLIOGRAPHY

1. Marshall, J.: Brit. Med. J. 1:102-4, 1963.