



# IDRC FEATURE

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE  
Box 8500, Ottawa, Canada, K1G 3H9 • Telephone (613) 996-2321  
• Cable: RECENTRE • Telex: 053-3753

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## WHO FERTILITY TASK FORCE DEVELOPS ABORTIVE SUPPOSITORY

by ALEXANDER DOROZYNSKI

An abortive suppository, apparently almost entirely effective, has been developed by researchers working in a fertility regulation program of the World Health Organization. The vaginal suppository contains, in synthetic form, one of the hormone-like substances believed to play a role in almost every organic process -- prostaglandins. The suppository is simply introduced into the vagina a few days -- even a few weeks -- after a missed menstrual period. Melting in contact with the vaginal mucus, it releases the synthetic prostaglandin, thus provoking uterine contractions (and perhaps other reactions, still not known). The fertilized egg implanted on the uterine membrane is ejected.

The active substance in the suppository is methyl ester of 15-methyl-PGF<sub>2</sub> alpha, one of the many prostaglandin analogues that have been synthesized in the past few years. Its efficacy in provoking uterine contractions has been tested on several thousand women in a dozen countries and the suppository, developed in Sweden by the team of Professor Sune Bergström of the Karolinska Institute, has so far been tried on several hundred Swedish women.

There appear to be few side effects, other than occasional strong cramps and bleeding, similar to those that can occur during normal menstruation, and occasional diarrhea and vomiting. In most of the cases, the ovum is aborted within 12 hours, and the woman can resume normal activities on the following day.

In the Swedish tests, less than 5 percent of the women who have used the new technique requested a subsequent medical consultation, because they were worried about either abundant, or prolonged bleeding. The action appears to be very specific to the uterus, and no severe aftereffects were observed.

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Acceptability also appears to be good. Most of the women questioned say they prefer this "at home" method of interrupting pregnancy to uterine aspiration carried out in a hospital or clinic, a technique widely used in many countries. This year (1976), the abortive suppositories will be tested on several thousand women throughout the world.

Prostaglandins were discovered -- and almost forgotten -- in the early 1930s, when it was observed that fresh human semen could provoke contractions of isolated uterine muscles. It is only in 1957 that Dr Sune Bergström, and Dr Jan Sjövall, both of the Karolinska Institute, isolated two prostaglandins in crystalline form. Their potential intrigued Dr David I. Weisblat, research director of Upjohn Laboratories (U.S.A.) and with the help of this firm, Dr Bergström isolated from tons of sheep glands collected in Iceland, several more prostaglandins in milligram amounts. The cost of pure prostaglandins was then several hundred times higher than the price of gold, but, in some cases, a billionth of a milligram of prostaglandin can provoke measurable effects.

Now six "primary" prostaglandins are known, and several thousands of synthetic analogues have been developed and are being studied experimentally. Some of them are used clinically, for instance, to provoke uterine contractions in the induction of labour. The therapeutic potential of others, in the treatment of asthma, ulcers, hypertension and other diseases, is being explored.

Four years ago the World Health Organization assembled a task force of top experts, which under the leadership of Dr Bergström, set out to explore the potential of prostaglandins in human fertility regulation. The International Development Research Centre of Canada supported the program, of which the development of vaginal suppositories containing prostaglandin analogues is an outcome. As the first abortifacient with a potential for self-administration, it is considered to be a major breakthrough.

The program involved the participation of Upjohn laboratories, which furnished synthetic PG:s for screening and clinical trials. If the approach is adopted as a family planning technique, large-scale and improved production could greatly reduce the price of a suppository. Such widespread utilization, however, is not expected within the next few years until extensive clinical trials have been completed.

While these large-scale trials are under way the WHO "prostaglandin task force" continues research on the possible uses of other prostaglandin analogues in fertility regulation.

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