

A Pharmacist Explores Some Differences Between **NATURAL PROGESTERONE AND SYNTHETIC PROGESTINS**

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We live in an era when more and more emphasis is being placed on the importance of natural substances. Natural food supplements and herbal formulations are in demand. Homeopathic physicians and caregivers are gaining popularity. Everyone seems to be asking, "What can we do to help the body repair itself in a more natural fashion?"

Many women who take hormone replacement supplements are also asking the "natural vs. synthetic" question. Is natural always better? What is the difference between natural micronized progesterone and the synthetic progestin, medroxyprogesterone, also commonly prescribed as Provera?

The most outstanding difference between the two is that medroxyprogesterone is an analog – a "look alike" – of progesterone, not truly a progesterone at all, but rather a progestin. The chemical structure of medroxyprogesterone closely resembles the chemical structure of progesterone as it is produced naturally in the human body. But, even a slight difference in the molecular configuration of a compound can produce a totally different response from its natural counterpart.

Progesterone is the oldest steroid hormone – some 500 million years old on the evolutionary scale. All vertebrates produce progesterone, although it is only in higher vertebrates progesterone functions in relation to glucose metabolism, the development of intelligence and bone formation.

The process of producing natural progesterone, which is made from yams and soybeans, was discovered by Russell Marker, a Pennsylvania State College chemistry professor. While experimenting with sapogenins, a group of plant steroids, in the jungles of Mexico in the 1930's, Marker realized that progesterone could be transformed by chemical process from the sapogenin, diosgenin, which is found naturally in yams.

Unlike Medroxyprogesterone, natural micronized progesterone is an exact chemical duplicate of the progesterone that is produced by the human body.

Another immediate difference between medroxyprogesterone and natural progesterone is that the synthetic hormone

can actually lower a patient's blood level of progesterone. Some women who take medroxyprogesterone to combat PMS or oppose estrogen in menopause, report headaches, mood swings and fluid retention.

On the other hand, women who take natural micronized progesterone often say their mood

Benefits of Natural Progesterone

- **Exact chemical duplicate of the progesterone Product in the human body, causing fewer Side effects i.e. migraines, fluid retention, weight gain and mood swings.**
- **Successfully used in pregnancy, luteal Phase defect and postpartum depression.**
- **Natural progesterone in an oil base produces Consistent and impressive blood levels.**

swings diminish. Women who suffer from migraines as their main complaint with PMS also find that this situation may be corrected by natural progesterone. In its natural micronized form, progesterone acts as a diuretic, which means the women who take these supplements may have to go to the bathroom more frequently, but they are spared the fluid retention and weight gain experienced by women on synthetic progestin.

Prescribed dosages also differ in regard to natural and synthetic progesterone. Synthetic progestin is 10 to 100 times as potent as the natural progesterone. This appears to be a tremendous range, but the doses fall well within those limits.

Medroxyprogesterone is sold in 2.5 milligram and 10 milligram tablets. For example, a woman who is using five milligrams of synthetic progestin would find the corresponding dose of natural progesterone to be between 50 and 500 milligrams. A dosage of 100 milligrams twice a day or 200 milligrams per day of natural progesterone will usually produce endometrial conversion or prevent hyperplasia.

Synthetic progestins were developed with the advent of the birth control pill. The half life of natural progesterone was very short and researchers were looking for an agent that would give a longer half life and yet produce or mimic the effects of progesterone.

Birth control pills contain, in most cases, a synthetic estrogen. The very potent synthetic progestins prevent ovulation in a very low dose and, therefore, accomplish their function of birth control.

Conversely, natural progesterone has been used for many years in pregnancy, luteal phase defect and postpartum depression. When a woman is pregnant, her progesterone levels are 30 to 50 times higher than normal. A nursing mother should not be concerned that taking natural progesterone for postpartum depression will affect the baby. After all, the baby has been exposed to tremendous levels of progesterone during its development.

Medical books sometimes tell us that natural progesterone cannot be given orally because it is very rapidly delivered through the portal excretion to the liver and there destroyed. Progesterone powder is obliterated by stomach acid. However, when progesterone is incorporated into a natural oil base, being a fat soluble substance it is held firmly in the oil base. The oil is taken into the stomach and absorbed through the lymphatic system – as are 90 percent of the fats taken into the body. Natural progesterone in an oil base produces consistent and impressive blood levels.

Significant differences exist between synthetic and natural progesterone. Natural progesterone duplicates the body's progesterone exactly, causes fewer side effects and can be more consistently utilized by the body. In the case of natural progesterone versus synthetic progestins in hormone replacement, natural does appear to be better.

About the author: This article was written by Wallace Simons, R.Ph., Women's International Pharmacy, Madison, Wisconsin. Simons has been a registered pharmacist for 30 years. He is a member of the Wisconsin Pharmaceuticals Assn., The American Pharmaceutical Assn., North American Menopause Society (NAMS), American College of Advancement in Medicine (ACAM) and a founding member of the Dalton Society.