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\*\*\*\*\*\*Female hormones tied to high incidence of liver diseases in women.

DALLAS--For years physicians have joked that the typical patient with gallstones is "female, fat and forty." The "whys" of this peculiarity of patient population have largely remained a mystery until recently.

Now one of the country's foremost liver specialists says there are strong suspicions that hormones, especially estrogen, may be behind most, if not all, of the high incidence of choles—rol gallstones, as well as other liver diseases in women. 'We all have the same biochemical pathways,' says Dr. Burton Combes, professor of internal medicine at The University of Texas Health Science Center at Dallas. 'The presumable difference in the quantity of certain chemical reactions in the bodies of men and women is the amount of female sex hormones."

By far the most common of the liver-related diseases in women is gallstones. Although gallstones appear in the gallbladder, an appendage of the liver, they are classified as a liver disease, the specialist explained. This is because gallstones are made up of the constituents of bile, which is manufactured in the liver. The stones are usually made from the cholesterol in the bile which has come out of solution and hardened to form stones. These gallstones cause problems when they get stuck in the walls of the gallbladder, which then tries to push them out by muscular contractions. The attacks are often extremely painful.

In patient studies done in Sweden, Czechoslovakia and the United States, including the Pima Indians, women through the childbearing age had an increasingly higher incidence of gallstones than men in the same age groups. It is known that estrogen tends to increase the amount of cholesterol in bile. In addition obesity produces an increase in the amount of cholesterol in bile, although this mechanism is not understood. But these characteristics, coupled with the age factor, combine to sterotype the typical gallstone patient as "female, fat and forty."

According to the liver researcher, women on "the pill," which contains estrogen, fall into the same high-risk category, for gallstones as well as those who are pregnant. In all these cases, estrogen level has been increased. And there are other liver diseases which affect more women than men. This is true at least during childbearing years when the estrogen level is suspected to be a major factor.

For example, 90 percent of the sufferers from primary biliary cirrhosis, one kind of scarring of the liver, are women. And 60 to 70 percent of the sufferers from chronic hepatitis of unwe cause are women. Certain kinds of hepatitis, an inflammation of the liver, are caused by viruses and not sex related.

Hepatic adenomas, or liver tumors, are found predominately in women, many on "the pill." Fortunately, the majority of these growths are benign, or non-cancerous.

Women who are victims of chronic alcoholism, seem to be more susceptible than men in developing certain liver diseases. The Canadian Liver Foundation warns that women cannot consume as much alcohol as men without damage to their livers.

Many pregnancy-related liver diseases seem to be related to hormones, although most of these relationships are not understood. One, a heavy vomiting syndrome some women have in early pregnancy, can lead to liver trouble. Another related problem may be an itching and jaundiced condition, which comes late in the pregnancy and is due to excess estrogen. Fortunately, it gets better after the woman has her baby. It may, however, recur with subsequent pregnancies or if the woman begins taking "the pill."

Also unknown is the cause for most cases of what Combes calls "the fatty liver of pregnancy." Some cases may be due to toxicity, or poisoning from infection. A few are due to the patient's having been given a very large dose of the antibiotic tetracycline for kidney problems.

Strangely enough, women's sex protects them from one disease of the liver--at least before menopause. Hemochromatosis, a disease in which a person absorbs too much iron from food and stores it in various parts of the body, is more common in men. Women have a physiological mechanism for losing iron from their bodies through their monthly menstrual cycle, since the red blood cells are the iron carriers. Too much iron building up in the tissues can lead to damage causing such problems as cirrhosis, diabetes and "bronze diabetes," so-called because of a darkening of the skin. Other resulting health problems may include damage to pituitary and testicular tissues.