

INTRODUCTION

Pregnancy is a unique period in a woman's lifetime. A number of anatomic, physiologic, biochemical and psychological changes take place. These changes may easily be misinterpreted by physicians who lack experience in regards to pregnancy effects on a woman's body. It is important that physicians caring for women understand the implications of these physiological changes in order to avoid any diagnostic errors and errors of management.

One has to remember that nature does not waste energy or effort. In that respect all the physiological changes that happen during pregnancy, happen for a purpose.

ADAPTIONS

- SKIN CHANGES

A number of changes take place in the skin of pregnant women. Mechanical stretching of the skin over the abdomen and breasts can lead to striae. The increased levels of estrogen and progesterone have also been implicated. Usually striae remain permanently with some change in color. Prevention may be achieved with moisturizing creams, especially those containing lanolin and other oily substances. It should be realized, however, that striae may develop despite any preventative measures.

•CHANGES IN THE GASTROINTESTINAL SYSTEM

Nausea and vomiting are the most frequent complaints involving the gastrointestinal system and usually happen in early pregnancy while heartburn happen primarily in late pregnancy. The gums become hyperemic and edematous during pregnancy and

tend to bleed. The muscular wall of the esophagus is relaxed and this may cause reflux, which in turn can lead to esophagitis and heartburn. The stomach and the intestines have decreased motility presumably due to the effect of progesterone on smooth muscle contractility. This causes an increase in the time that it takes for the stomach to empty. Reduced gastric secretion has also been documented and it could account for the improvement of peptic ulcers sometimes observed in pregnancy. Decreased motility of the large intestine may lead to constipation. The liver is affected significantly by pregnancy. Cholestatic jaundice is considered to be the result of estrogen effect on elimination of bilirubin by the liver. The effect of estrogen also, is to increase protein synthesis in the liver, which leads to increased

production of fibrinogen and binding proteins. The liver enzymes are usually unaffected with the exception of alkaline phosphatase, which is increased approximately two fold to four fold that is a result of a placental production. Pregnancy increases the size and decreases the motility of the gall bladder. The decreasing motility and increase in volume, combined with changes in the bile's composition, explain the correlation between the incidence of cholelithiasis and pregnancy.

•CARDIOVASCULAR CHANGES

Of all changes that happen in pregnancy, the single most important is the one involving the cardiovascular system. Adequate cardiovascular adaptation secures good placental development and thus appropriate fetal growth.

In brief, the cardiovascular changes involve a substantial

change in the blood volume,
cardiac output, heart rate,
systemic arterial blood pressure,
systemic vascular resistance,
oxygen consumption and
alterations in regional blood flow
of various