Why certain individuals are overweight or obese may involve much more than how many calories they consume or expend. We can all probably think of people who seem to be able to consume several thousand calories a day without putting on a pound while others continue to gain on 800 to 1000 calorie diets. The usual explanation is that their "metabolism" is different and since hyperthyroid patients tended to be thin despite increased food intake, thyroid was frequently given to help patients lose weight. Although patients with underactive thyroids and myxedema are puffy they are almost never overweight due to increased fat deposits. It is doubtful that more than 1 percent of excess weight problems are due to hormonal or metabolic disorders. More plausible players in the cast of characters that may contribute to new obesity therapies include: Leptin - (from the Greek leptos meaning thin) is a protein produced by fat cells thought to suppress appetite. Genetically obese mice can't make leptin and lose weight dramatically when given leptin. While obese patients don't have leptin deficiency large doses of leptin have been shown to promote weight loss in some but it may have more promise in helping prevent weight gain.

Dopamine - receptors for this pleasure-reward neurotransmitter have been found to be diminished in obese patients who may use eating as a way to bring on pleasure. Improving dopamine function may be much safer and more effective than appetite suppressant and fat blocking drugs.

Viral Infection - Can you catch obesity like you catch a cold? Might sound crazy but nobody ever dreamed that peptic ulcers and stomach cancer could be due to helicobacter infection. Adenovirus-36 (Ad-36) makes chickens and mice gain significant amounts of fat without any increased food intake. In one study of 52 obese patients the 10 who showed evidence of Ad-36 infection were the ten most obese. A trial on antiviral agents and a vaccine to prevent the infection is in the wings.

Ghrelin - is called the "hunger hormone" because it rises significantly before meals and plummets afterwards. Although it is produced in the stomach its receptors are in the brain where it stimulates growth hormone secretion. The name drives from the root ghre, which means growth in Hindi and ghrelin causes weight gain in laboratory animals by increasing food intake and decreasing its utilization. In human studies to investigate effects on growth hormone, 80 percent of subjects said ghrelin caused intense hunger and blocking it might reduce appetite and obesity.

Numerous nutritional supplements ranging from appetite suppressants and stimulants to various types of fiber or fat blockers as well as combinations of these are aggressively promoted as weight loss products. Very few can supply reputable studies to support their claims and some have been associated with serious side effects and deaths. We will discuss these and other products that have scientific support for efficacy and safety in a future Newsletter. We will also tackle the thorny subject of the best diet to reduce insulin resistance and obesity and the significance of Glycemic Index; our next Congress will deal with all of these topics—so stay tuned!