Obesity Epidemic in the United States
A Cause of Morbidity and Premature Death

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Regarded as preeminent health issues in the Western world, overweight (OW) and obesity (OB) are overwhelmingly prevalent in the United States. Currently the United States, characterized by one writer as “Fat Land,” leads the epidemic of fat-related morbidity. Approximately 190 million Americans (approx 64% of the population) are estimated to be OW or OB. The energy balance equation defining relative homeostatic roles of energy intake and expenditure is not the sole etiological factor in a genetically defined subset of individuals with OB and OW. Beyond this subset, the energy balance is crucial for maintaining a healthy weight, free of significant premature natural
disease. In the Western civilization, there is a ready supply of a high-energy, low-nutrient foods, which, when coupled with decreased physical activity, promote adiposity. OB-related complications and risks of premature death are growing concerns to the medical community as the costs of treatment for this essentially preventable condition explode continually in the wake of rising trends of OW and OB. In the adult age ranges of greater than 20 years, OW and OB have increased to 54.9% within the last decade. Life expectancy declines by 20 years if a person is OB by the age 20. A high prevalence (15%) of American children between 6 and 19 years is classified as OW or OB. OB elderly report a poorer health-related quality of life in comparison to nonobese age-matched individuals. In the United States alone, approx 300,000 adult deaths are attributed annually to OB complications. Extensive research addresses the effects of OW/OB on the health of Americans. Many health care professionals now classify OW/OB in the general public as a chronic disease state, resulting in a vast array of medical comorbidities with debilitating psychological and behavioral sequelae. In forensic death investigation, autopsy findings correlate well with this clinical diagnosis. Calculating the body mass index (BMI) and measurement of abdominal circumference (AC) offers the most accurate postmortem diagnosis of OW and OB. In addition to BMI and AC, less specific parameters (i.e., adipocyte hypertrophy and hyperplasia) are included in the definition of OB. Clearly, evaluation of adipocyte size and quantity is impractical either antemortem or postmortem. In our experience, many OW or OB individuals coming to autopsy even without antemortem clinical diagnoses have died predominately of complications of ischemic heart disease, inclusive of hypertensive cardiovascular disease and atherosclerotic coronary artery disease. Other significant extra-cardiac causes of death directly related to OW and OB are ascribed to complications of diabetes mellitus, lower extremity deep venous thrombosis and pulmonary thromboemboli, liver disease, and acute and chronic respiratory embarrassment. Both nonfatal and lethal complications of surgery—either unrelated to or specifically for treatment of OB—also occur at higher rates in the OB patient.

**Key Words:** Obesity; overweight; body mass index (BMI); ischemic heart disease; medical complications of obesity; chronic disease; premature death; forensic autopsy; obesity epidemic.

1. **BACKGROUND**

1.1. **Aspects of the Obesity Epidemic**

Hippocrates observed that “Sudden death is more common in those who are naturally fat than lean” (1). Overweight (OW) and obesity (OB) are the