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Sommario/riassunto	<p>Not only developed countries, but also most developing areas of the world, have experienced a surge in obesity prevalence over recent decades. Obesity complications are now among the leading causes of premature mortality, encompassing conditions such as coronary heart disease, stroke, and type 2 diabetes. This places a heavy burden on contemporary healthcare systems. While rodent models have limitations as experimental models of human obesity-related disease, study of rats and mice either spontaneously prone - or resistant - to obesity, or genetically engineered to illuminate underlying mechanisms has yielded key information about the metabolic defects linked to obesity, and their associated diseases. This topic includes both original research studies and reviews of the use of animal studies in specific areas of obesity-related disease. Various methodological approaches are discussed, with evaluation of the extent to which use of animal models has facilitated progress, or, conversely, has proved a cul de sac in investigation of human disease mechanisms. Consideration is also given to future strategies to use such rodent models optimally to enhance comprehension and treatment of pandemic human obesity-related diseases.</p>