

The influence of obesity in patients with prostate cancer - Review of the literature

Maximilien C. Goris Gbenou

Valence Hospital, Department of Urology, Valence, France

Corresponding author: Dr Maximilien C. Goris Gbenou, Valence Hospital, Department of Urology, 179, Boulevard Maréchal Juin, 2600 Valence, France

Submission date: November 4, 2012; Acceptance date: April 26, 2013; Publication date: April 29, 2013

ABSTRACT:

Recent studies have demonstrated an association between higher body mass index and increased aggressiveness in prostate cancer.

The present narrative review, based on a search of Medline® and Embase® databases from October 1982 to October 2012, explores the relationship between higher body mass index and localized prostate cancer. In particular, the current epidemiological and mechanistic evidence for interactions between obesity and prostate cancer are discussed.

Obesity is associated with alterations in androgen levels, decreased sex hormone binding globulin and increased estrogen levels, insulin resistance, hyperglycemia, alterations in plasma lipoprotein levels particularly raised triglycerides and reduced high density lipoprotein, decreased levels of adiponectin, and increased levels of circulating insulin-growth factor- 1, leptin and dietary saturated fats. Obese men have more aggressive prostate cancer with a greater percentage prostate involvement, increased tumor volume and higher-grade disease, enlarged prostates, high prostate-specific antigen levels, increased risk of having positive margins and recurrence.

Moreover, there is strong evidence of the beneficial effects of functional foods for the treatment of obesity. Additionally, an increasing number of studies support that obesity-induced inflammation plays an important role in the development of obesity-related pathologies. Despite, the beneficial role of nutriment in prostate cancer control, the use of functional foods in prostate cancer is not recommended for lack of large epidemiological studies.

This data supports the hypothesis that obese men have more aggressive prostate cancers and that the obesity is a modifiable risk factor of prostate cancer.

Key Words: prostate cancer, metabolic syndrome, obesity, high BMI, risk factor, diet, functional foods.