



Editorial

Ocular changes and disorders associated with Obesity

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Editorial

Obesity is a chronic and metabolic disease with a high increasing prevalence worldwide. It has multifactorial pathogenesis including genetic and behavioral factors [1-5]. Overweight and obesity have been defined and classified by the World Health Organization (WHO) and the National Institutes of Health (NIH) [2,3]. A person with a normal weight has Body Mass Index (BMI) of 18.5-24.9. A person with a BMI under 18.5 is called underweight. An adult having a BMI of 25-29.9 is overweight and pre-obese. Class 1 obesity is defined as a BMI between 30.00-34.99. Class 2 (Severe) Obesity is to have a BMI between 35.00-39.99. Morbid (Extreme, Class 3) obesity is to have a BMI over 40 [1-5]. Obesity is significantly associated with enhanced morbidity and mortality rates. It has also various economic, medical and psychological effects and causes health problems including many systemic diseases, economic costs and burdens, social and occupational stigmatization and discrimination and productivity loss [4-6]. Obesity carries the increased risk of development of many systemic and chronic diseases, including sleep apnea, depression, insulin resistance, Type 2 (adult-onset) diabetes, Gout and related arthritis, degenerative arthritis, hypertension, dyslipidemia, heart disease such as myocardial infarction, congestive heart failure, or coronary artery disease, polycystic ovary syndrome and reproductive disorders, Pickwickian syndrome (obesity, red face and hypoventilation), metabolic syndrome, non-alcoholic fatty liver disease, cholecystitis, cerebrovascular accident, colonic and renal cancer, rectal and prostatic cancer in males, and gallbladder, uterus and breast cancer in females [6-12].

In recent years, some publications reported that obesity has been strongly associated with some ocular diseases including age-related cataract and maculopathy, glaucoma, and diabetic retinopathy [13-16].

The recent reports demonstrated that the central corneal thickness and intraocular pressure were increased while as mean thickness of RNFL and retinal ganglion cell and choroidal thickness (CT) were decreased in the morbidly obese subjects [17-19]. However, another study has reported that CT increased in obese children [20]. On the other hand, a recent study reported that all values of the specific tests used to evaluate the ocular surface were within the normal range [21]. In some experimental studies, it has been demonstrated that obesity may cause retinal degeneration [22,23]. Additionally, in a past meeting presentation, it has been speculated that keratoconus is associated with severe obesity [24]. Teorically, idiopathic intracranial hypertension, and papilledema may also be associated with obesity [25]. Obesity may be also a cause of mechanical eyelid abnormalities such as entropion [26]. However, further investigations are needed to detect the significant relationship between these diseases and obesity.

On the other hand, the ocular surgeries of obese patients are difficult compared to normal weight-subjects. The posterior capsule rupture and vitreous loss may easily develop during cataract surgery of these patients because obese patients have an elevated vitreous pressure and operating table cannot often be lowered or surgeon's chair cannot be elevated sufficiently to provide the clear viewing of the operating area and tissues. So, some different surgical manipulations such as standing phacoemulsification technique and reverse Trendelenburg position have been developed. Additionally, the standing vitrectomy technique has been used for vitreoretinal interventions in morbidly obese patients [27,28].

In conclusion, all obese subjects should be subjected to a completed ophthalmological examination and to relevant clinics for the detection of possible comorbidities and diseases.

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