Cardiovascular Aspects of Sexual Medicine

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ABSTRACT

Introduction. Erectile dysfunction (ED) is common and considered to be predominantly of vascular origin.

Aim. To evaluate the link between ED and coronary artery disease (CAD) and provide a consensus report regarding evaluation and management.

Methods. A committee of eight experts from six countries was convened to review the worldwide literature concerning ED and CAD and provide a guideline for management.

Main Outcome Measure. Expert opinion was based on grading the evidence-based medical literature, widespread internal committee discussion, public presentation, and debate.

Results. ED and CAD frequently coexist. Between 50–70% of men with CAD have ED. ED can arise before CAD is symptomatic with a time window of 3–5 years. ED and CAD share the same risk factors, and endothelial dysfunction is the common denominator. Treating ED in cardiac patients is safe, provided that their risks are properly evaluated.

Sexual Selection and Genital Evolution: An Overview: Genital Evolution

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ABSTRACT

Sexual selection has a reputation as a major cause of speciation, one of the most potent forces driving reproductive isolation. This reputation arises from observations that species differ most in traits involved with mating success and from successful models of sexual selection–driven speciation. But how well proven is the case? Models confirm that the process can occur, but is strongest in conjunction with ecological or niche specialization. Some models also show that strong sexual selection can act against speciation. Studies using the comparative method are equivocal and often inconclusive, but some phylogeographic studies are more convincing. Experimental evolution and genetic or genomic analyses are in their infancy, but look particularly promising for resolving the importance of sexual selection. The case for sexual selection is not as strongly supported as, for example, allopatric speciation. Sexual selection probably contributes most effectively alongside ecological selection or selection for species recognition than as a solitary process.
Vascular Impairment of Erection in Patients with Diabetes and Peyronie's Disease: Is that Accumulative?

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ABSTRACT

Introduction. The vascular impairment of erection has been shown in diabetic patients as well as in patients with Peyronie’s disease (PD). However, the impact of both conditions together on vascular impairment has not been well addressed.

Aim. The aim of this study was to assess the impact of type 2 diabetes mellitus (DM) and PD solely, and together, on impairment of vascular status of erection in patients with erectile dysfunction (ED).

Methods. Three hundred four male patients with a clinical diagnosis of ED who visited our Andrology clinic and who had DM and/or PD were enrolled in this study. Of the patients, 214, 28, and 62 had DM, PD, and both DM and PD, respectively. Patients were interviewed for ED using the International Index of Erectile Function. All patients were also interviewed for sociodemographic data and medical comorbidities including DM. The diagnosis of PD was based on a palpable penile plaque or acquired penile curvature. Color Doppler ultrasonography was used to evaluate the hemodynamics of erection in all patients.

Main Outcome Measures. We assessed the impact of type 2 DM and PD on erectile function (EF) domain and on deterioration of Doppler parameters of erection.

Results. Age, obesity, smoking, and medical comorbidities were significantly higher in patients with both DM and PD than in patients with any of the conditions alone. The means of EF domain, Q3, and Q4 were significantly lower in patients with both DM and PD than in patients with any of the conditions alone. Patients with DM only had significantly lower means of EF domain, Q3, and Q4 than patients with PD only. The means of peak systolic velocity and resistive index were significantly lower, and the means of end-diastolic velocity were significantly higher in patients with both DM and PD than in patients with any of the conditions alone.

Conclusions. Type 2 DM and PD solely, and together, negatively affect the vascular status of erection. Type 2 DM demonstrated the principal effect; however, presence of PD has an additive impairment effect on erection and Doppler parameters. El-Sakka AI, and Tayeb KA. Vascular impairment of erection in patients with diabetes and Peyronie’s Disease: Is that accumulative? J Sex Med 2009;6:1736–1742.
Androgen Pattern in Patients with Type 2 Diabetes-associated Erectile Dysfunction: Impact of Metabolic Control

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ABSTRACT

Objectives

To assess the impact of diabetes mellitus (DM) control on androgen pattern in men with type 2 DM–associated erectile dysfunction (ED).

Methods

This is a prospective office-based study. A total of 159 ED male patients with DM were enrolled in this study. Erectile function was assessed using the international index of erectile function (IIEF). Diabetes control was instituted using lifestyle modification in addition to hypoglycemic agents and/or insulin therapy. Regular follow-up visits were scheduled every 4 weeks to adjust the anti-DM treatment according to patients’ response and tolerance. At baseline, 3- and 6-month visits, patients were assessed for control of DM, ED severity, and total testosterone (T), dehydroepiandrosterone sulfate (DHEA-S), and insulin assessment.

Results

Of all patients, 25.8%, 6.3%, and 30.2% had low total T, low DHEA-S, and hyperinsulinemia, respectively, at baseline visit. There were significant increases in the mean total T levels (4.2 ± 1.9 vs 4.7 ± 2.1 and 5.3 ± 2.2) and significant decreases in insulin level (23.7 ± 17.4 vs 22.8 ± 15.3 and 17.8 ± 13.9) at 3- and 6-month visits, respectively. There were significant associations between good control of DM or decreased fasting blood sugar and normal levels of total T at 3- and 6-month visits. The prevalence of patients with normal testosterone and severe ED was significantly increased at 3- and 6-month visits.

Conclusions

The present study clearly demonstrated that there were significant associations between control of DM and normal total T levels at 3- and 6-month follow-up visits.

Little is known about hormonal alteration in aging patients with diabetes. Therefore, androgen alteration may have deleterious effects on glycemic control and ultimately therapeutic strategy and prognosis of type 2 diabetes mellitus (DM). The Endocrine Society of clinical practice demonstrated the high association between type 2 DM and low testosterone level and their guideline recommended measurement of testosterone concentration in those patients. Hyperinsulinemia and increased glucose concentration are both negatively correlated with total
and free T levels in men. Although it has been suggested that a low level of T plays a role in the development of insulin resistance and type 2 DM, the cause of the decreased T in type 2 DM remains obscure. It has been reported that androgen deficiency in type 2 DM is commonly associated with hypogonadotropic hypogonadism. It could be speculated that insulin resistance associated with type 2 DM determines a reduction in insulin action in the hypothalamus, leading to hypogonadotropic hypogonadism. Furthermore, C-reactive protein (CRP) concentrations have been shown to be elevated in patients with hypogonadotrophic hypogonadism and type 2 diabetes; this finding could suggest that inflammation may play an important role in the pathogenesis of this syndrome. Obstructive sleep apnea was reported to be associated with hypogonadotropic hypogonadism, with improvements in testosterone levels after intervention with continuous positive airway pressure.

By contrast, administration of testosterone to hypogonadal men improves insulin sensitivity and glucose homeostasis. In a double-blind placebo-controlled crossover study, Kapoor et al reported that testosterone replacement therapy in hypogonadal men with type 2 diabetes reduces insulin resistance and improves glycemic control and waist circumference. Furthermore, Corona et al recently demonstrated that diabetes-associated central obesity and insulin resistance, rather than diabetes per se, play the most important role in diabetes mellitus–associated hypogonadism.

In our recent investigation, we have demonstrated that there were significant associations between low levels of total T or DHEA-S and poor control of DM. The present study aimed to determine the impact of DM control on androgen pattern in patients with diabetes associated with erectile dysfunction (ED). Furthermore, we have examined the influence of DM control and subsequent androgen amelioration on the severity of ED.

Material and Methods

Research Design

This is a prospective office-based study. A total of 211 type 2 ED male patients with DM who visited our Andrology clinic were the candidates of this study. Of them, 159 patients (75.4%) who completed the 6-month follow-up period were enrolled in the study and their data were subjected to statistical analysis. The remaining 52 of 211 patients (24.6%) who had not completed follow-up visits were excluded from the study.

ED Assessment

All patients were assessed for ED using the international index for erectile function (IIEF). The erectile function domain consists of questions 1 to 5 and question 15 for assessing the global erectile function. Scoring of the IIEF domain of erectile function allowed classification of each patient as having no (26-30), mild (17-25), moderate (11-16), or severe (0-10) ED.
Erectile dysfunction, cardiovascular diseases and depression: interaction of therapy

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ABSTRACT

Several studies have revealed the intimate associations between erectile dysfunction (ED), ischemic heart disease (IHD) and depression. Whether the physicians should also screen for the other two components when a patient presents with one component of this triad is still an important question to be answered. These three components had been classified as independent medical conditions managed by unrelated medical services. Recently, the potential effect of medications of each condition on the other conditions had gained a lot of interest. The aim of the current review is to discuss the integrative view of association between cardiovascular diseases, erectile dysfunction and depression, and to address the two direction impact of pharmacotherapy for IHD and depression on erectile function.

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