

A Case-Control Study To Evaluate The Risk Factors Of Peyronie's Disease

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Table 2. Characteristics of the study population according to the clinical condition status (Peyronie Disease)

| Characteristics | Peyronie's Disease | | P value |
|---|--------------------|----------------|---------|
| | Present (n=156) | Absent (n=312) | |
| Age (years) | 57.8 ± 10.6 | 58.3 ± 10.7 | 0.66 |
| White skin color | 151 (96.8%) | 257 (82.4%) | <0.001 |
| Marriage status | 123 (78.8%) | 282 (90.4%) | 0.001 |
| Smoking | 23 (14.7%) | 58 (18.6%) | 0.30 |
| Abusive consumption of alcoholic beverages | 27 (17.3%) | 26 (8.3%) | 0.004 |
| Obesity status | | | |
| Body mass index (kg/m ²) | 26.7 ± 3.9 | 26.4 ± 4.6 | 0.55 |
| Waist circumference (cm) | 97.5 ± 11.0 | 97.6 ± 11.5 | 0.93 |
| Laboratory characteristics | | | |
| Fasting blood glucose (mg/dL) | 112.7 ± 38.2 | 118.1 ± 48.8 | 0.44 |
| Triglycerides (mg/dL) | 157.6 ± 134.5 | 147.5 ± 122.2 | 0.35 |
| Total Cholesterol (mg/dL) | 204.8 ± 40.7 | 206.9 ± 44.2 | 0.64 |
| HDL- Cholesterol (mg/dL) | 46.0 ± 12.9 | 43.6 ± 11.9 | 0.059 |
| LDL - Cholesterol (mg/dL) | 127.3 ± 36.3 | 133.6 ± 35.2 | 0.098 |
| Total testosterone (ng/dL) | 439.0 ± 184.8 | 447.6 ± 208.2 | 0.38 |
| International Index of Erectile Function (points)* | | | |
| Erectile domain | 22.0 ± 7.5 | 19.4 ± 7.9 | 0.001 |
| Orgasmic domain | 7.7 ± 2.3 | 7.6 ± 2.9 | 0.64 |
| Sexual desire domain | 7.1 ± 1.9 | 7.3 ± 1.9 | 0.34 |
| Intercourse satisfaction domain | 9.0 ± 3.1 | 8.7 ± 3.3 | 0.36 |
| Overall satisfaction domain | 6.3 ± 2.2 | 6.6 ± 2.1 | 0.13 |

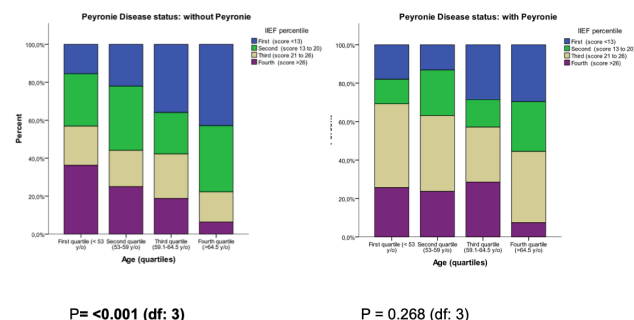
Data are expressed as sample size (%), mean ± standard deviation (SD). * by erectile domain of IIEF

Table 4. Association between age quartiles and the presence of erectile dysfunction (IIEF<26), considering Peyronie's disease status group.

| All patients (case and controls) | P value * | Erectile dysfunction (IIEF<26) | |
|----------------------------------|-----------|--------------------------------|--------------|
| | | OR | (95% CI) |
| Age quartiles | <0.001 | reference | |
| a) First quartile (<53 y/o) | reference | | |
| b) Second quartile (53-59 y/) | 0.05 | 1.66 | (0.98-2.82) |
| c) Third quartile (59.1-64.5 y/) | 0.004 | 2.18 | (1.29-3.71) |
| d) Fourth quartile (>64.5 y/o) | <0.001 | 3.89 | (2.20-6.86) |
| With Peyronie disease | 0.51 | | |
| Age quartiles | reference | | |
| a) First quartile (<53 y/o) | reference | | |
| b) Second quartile (53-59 y/) | 0.71 | 1.18 | (0.48-2.94) |
| c) Third quartile (59.1-64.5 y/) | 0.91 | 1.04 | (0.44-2.45) |
| d) Fourth quartile (>64.5 y/o) | 0.16 | 1.86 | (0.77-4.48) |
| Without Peyronie disease | <0.001 | | |
| Age quartiles | reference | | |
| a) First quartile (<53 y/o) | reference | | |
| b) Second quartile (53-59 y/) | 0.05 | 1.93 | (0.99-3.72) |
| c) Third quartile (59.1-64.5 y/) | 0.001 | 3.39 | (1.69-6.82) |
| d) Fourth quartile (>64.5 y/o) | <0.001 | 6.26 | (2.89-13.54) |

* df=3

Association between age quartiles and severity of erectile dysfunction, conform Peyronie's disease status at clinical presentation



Introduction

Background: Peyronie's disease (PD) is a benign pathology that develops fibrous plaques within the tunica albuginea of the penis, causing penile tortuosity, shortening in length, painful erections and erectile dysfunction. Although the disease was described more than 250 years ago, the precise etiology remains obscure.

Aim: To demonstrate the clinical and epidemiological profile of patients with PD as well as to evaluate the main predisposing risk factors related to the disease.

Method

A case-control study was conducted with 156 consecutive PD patients and 254 age-matched controls. Men were interviewed regarding demographic and lifestyle characteristics, co-morbidities and current medication use. International Index of Erectile Function was used to assess the presence and severity of erectile dysfunction. Anthropometric and laboratory evaluations were performed. Potential risk factors for PD were analyzed using bivariate and multivariate models (P <0.05). The effect of PD was studied on the association between ED and age, both by bivariate and multivariate models (P <0.05).

Results

White skin color, no married status, abusive consumption of alcoholic beverages and clinical conditions such as hypertension, rheumatologic diseases and Dupuytren's disease were more commonly associated with PD (P<0.05). Captopril, thiazide diuretics and acetylsalicylic acid were more frequently among PD individuals (P<0.05). LDL-cholesterol levels were lower in PD cases (P=0.04). Association between ED and its severity with PD was observed in the study population and in older men (>60 years of age). Erectile function in younger PD men (<60 years of age) presented higher IIEF scores. Similarly, PD men do not demonstrate an independent association between age and ed-IIEF that was observed in the in the control group and in all study population.

A clear association between PD and ED was observed. Younger men (<60 years old) with PD presented higher scores of IIEF, which was not observed in the older group (>60 years of age). This study significantly contributes to the epidemiological conclusions of PD, especially related to ed-IIEF and the relationship with age of presentation.

Conclusion

White skin color, no married status, abusive consumption of alcoholic beverages, hypertension, rheumatologic diseases, Dupuytren's disease, captopril, thiazide diuretics and ASA were associated with PD. Erectile dysfunction was associated with the presence of PD, except in younger men.

Table 5. Linear regression of IIEF (erection domain) considering age in years (continuous variable)

| | P value | Adjusted * coefficients (95% CI) for IIEF (erection domain) by each year of age considered |
|---|---------|--|
| All patients (case and controls) | | |
| Age (each year) | <0,001 | -0.16 (-0.24 to -0.09) |
| With Peyronie disease | | |
| Age (each year) | 0.09 | -0.14 (-0.31 to +0.03) |
| Without Peyronie disease | | |
| Age (each year) | <0,001 | -0.15 (-0.24 to -0.07) |

* Linear regression adjusted for all variables associated with Peyronie's disease in this

serie: skin color, marriage status, excessive consumption of alcoholic beverages, total testosterone, LDL cholesterol, presence of HBP, Dupuytren disease and rheumatologic diseases and for the use of captopril, thiazides and AAS.