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SURGICAL TECHNIQUE

Cavernoplasty with oral mucosa graft for the surgical treatment of Peyronie's disease☆

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KEYWORDS
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Abstract
Background: Peyronie's disease is a disorder of the tunica albuginea and causes penile curvature, requiring surgical correction when the deformity impedes penetration.
Material and methods: Retrospective analysis of the short-term results (penile length, angle of curvature and erectile function) of treating Peyronie's disease in 10 patients through cavernoplasty with oral mucosa graft. Essentially, the treatment included the incision of the fibrotic plaque with electrical scalpel and the subsequent coating of the cavernous defect using a patch of oral mucosa. At month 6, we measured the penile length and curvature and recorded the erectile function using the International Index of Erectile Function-5 (IIEF-5) questionnaire. Finally, the patients were asked ''Would you undergo the same operation again?''.
Results: The mean age was 53.4 years. The average and median follow-up was 22.7 months and 24 months, respectively. The mean preoperative curvature was 68.5° (50°–90°), the mean penile length was 11.2 cm (9–15) and the mean IIEF-5 score was 16.1 (8–25). The mean postoperative penile length was 10.7 cm, and the mean IIEF-5 score was 18.9. The differences between the preoperative and postoperative values were not statistically significant (p = ns). One patient developed erectile dysfunction. In all cases, the residual curvature was <20°. Nine patients (90%) stated that they would undergo the same operation.
Conclusions: The short-term results suggest that cavernoplasty with oral mucosa graft can be an alternative to traditional grafts for surgically correcting Peyronie's disease.

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PALABRAS CLAVE
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Cavernoplastia con injerto de mucosa oral para el tratamiento quirúrgico de la enfermedad de La Peyronie

Resumen
Introducción: La enfermedad de La Peyronie es un trastorno de la albugínea que condiciona incurvación peneana, y que precisa corrección quirúrgica cuando la deformidad dificulta la penetración.
Material y métodos: Análisis retrospectivo de los resultados a corto plazo (longitud del pene, ángulo de incurvación y función eréctil) del tratamiento de la enfermedad de La Peyronie en 10 pacientes mediante cavernoplastia con injerto de mucosa oral. En esencia, el tratamiento incluyó la incisión de la placa fibrótica con bisturí eléctrico y el posterior recubrimiento del defecto cavernoso mediante un parche de mucosa oral. Al sexto mes medimos la longitud e incurvación peneanas, y recogimos la función eréctil mediante el cuestionario IIEF-5. Finalmente, se planteó a los pacientes la pregunta «¿volvería a repetir la misma intervención?».
Resultados: La edad media fue de 53,4 años. El seguimiento promedio fue de 22,7 meses y la mediana de 24. La incurvación media preoperatoria fue de 68,5° (50-90°); la longitud media del pene de 11,2 cm (9-15) y el IIEF-5 medio de 16,1 (8-25). La longitud peneana media postoperatoria fue de 10,7 cm y el IIEF-5 medio de 18,9. Las diferencias entre los registros pre- y postoperatorios no alcanzaron significación estadística (p = ns). Un paciente desarrolló disfunción eréctil. En todos los casos la incurvación residual fue < 20°. Nueve pacientes (90%) aseguraron que repetirían la misma intervención.
Conclusiones: Los resultados a corto plazo señalan que la cavernoplastia con injerto de mucosa oral puede ser una alternativa a los injertos tradicionales para la corrección quirúrgica de la enfermedad de La Peyronie.

Introduction

Peyronie's disease (PD) is an idiopathic disorder of the tunica albuginea of the penis that affects 3.2% of men between 40 and 70, characterized by the formation of a fibrosis plate that produces penile curvature and painful erections.[1]

Treatment in acute or inflammatory phase is based on the application of conservative measures such as oral drugs, topical agents, or intralesional injections. Once the disease is stabilized (chronic phase), patients with penetration difficulties can benefit from surgical correction of the deformity.

The choice of the surgical technique is determined by the size and grade of penile curvature. Usually, in cases of long penises and curvatures lower than 60°, techniques of plication or excision of the tunica albuginea on the convex side are used, whose main risk is the shortening of the penis. In patients with short penis or curvatures above 60°, enlargement techniques of the concave side by means of autogenous (saphenous vein, tunica albuginea, or oral mucosa) or heterologous (Dacron or bovine pericardium) grafts are often used, preserving the penile length, although they have a risk of developing erectile dysfunction.[2]

This study shows the results of our series of patients with PD treated with cavernoplasty with oral mucosa graft.

Material and methods

We retrospectively analyzed the results of the treatment of 10 patients diagnosed with PD and operated by cavernoplasty with oral mucosa graft in our department between May 2013 and November 2014. In all cases, the disease progression was equal to or exceeding one year. Similarly, all patients experienced inability to achieve satisfactory penetration. In all cases, the patients maintained not painful spontaneous erections, or those reached by using drugs.

Preoperative assessment included psychosexual history, examination of the genitals and oral cavity, measuring with a millimeter ruler of penis size (in detumescence from the base of the penis, rejecting the pre-pubic fat, to the urethral meatus), measuring of the angle of curvature by self-photographs in 3 projections, and the erectile function questionnaire IIEF-5.

Before the operation, patients signed an informed consent that included a reference to the graft extraction procedure. Thirty minutes before anesthetic induction, antibiotic prophylaxis (amoxicillin-clavulanate, 1 g intravenously) was administered. Both the oral cavity and genital area were sterilized with a non-alcoholic antiseptic solution of chlorhexidine 0.4%. All procedures were performed under general anesthesia with endotracheal intubation, and by the same surgeon (RME) (Table 1).

The intervention began with a subcoronal circumferential incision. By blunt dissection and at scissor point, we completely denuded the penis. Athermal release of the neurovascular bundle was performed, from the ventral to the dorsal side, rejecting it with an elastic band. We placed a tourniquet on the base and caused an artificial erection by intracavernous injection of saline to expose the penile curvature (Fig. 1). Once the fibrotic plaque is identified in the cavernous body, we proceeded to incision with electric