Effects of Enzymatic Hydrolysate of Oyster on Erectile Function in Male Hemicastrated Rats

Abstract

Oysters have been thought to significantly improve the male sexual function for thousands of years. To explore the effects of an enzymatic hydrolysate of oyster preparation on erectile dysfunction (ED), hemicastrated male rats were divided into control, positive control and oyster hydrolysate high dose group (0.617 g/kg body weight per day), medium dose group (0.308 g/kg) and low dose group (0.103 g/kg), respectively. After castration, the growth, development and the organ indexes of accessory sex glands and immune organs of the rats were significantly decreased than those of normal rats. Oyster hydrolysate significantly shortens the latency of penile erection induced by electrical stimulation in a dose-dependent manner, indicating that oyster hydrolysate also has significant effects on alleviating ED. Further analysis revealed that the serum levels of testosterone and luteinizing hormone and NO were significantly higher than those in the castrated model group, and were similar to those in the normal control group, indicating that oyster hydrolysate promotes the synthesis of testosterone by stimulating the synthesis of luteinizing hormone, which then increased the serum NO content through the NO-cGMP signaling pathway.

Keywords: Bioactive peptide; Oyster hydrolysate; Erectile function; Testosterone; NO

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