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Research Article

Effect of oral administration of collagen-α® reproductive activity and growth efficiency of mature male rabbit

Bushra F. HASAN, Jinan A. HILAL*, Nawras A. ALWAN
Department of Physiology, Pharmacology and Biochemistry, College of Veterinary Medicine, University of Basrah, Basrah, Iraq.
Email: jinan.hilal@uobasrah.edu.iq

Abstract: Collagen supplements are widely used for their bioactive properties, affecting cellular and tissue health, and elasticity with high repair and conditioning effects. This study was designed to evaluate the effects of oral administration of Collagen-α® on the health and reproductive performance of male rabbits. Animals were randomized into three groups (6 rabbits per group) including Group I (control group) treated with 1ml of distal water orally, Group II treated with 1ml of Collagen-α® orally for 15 days, and Group III treated with 1ml of Collagen-α® orally for 30 days. Body weight and body weight changes, organ weights, and histopathological evaluation of the testis were recorded. The study showed that the collagen-alpha treatment group had significantly lower body weight and organ weight than the control group. Furthermore, various changes in histopathology and parameters related to testicular function were found in the collagen alpha group compared to the control group.

Keywords: Collagen-α, Growth efficiency, Reproductive activity, Mature male rabbit.
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Introduction

A diet supplement is a health-beneficial product that includes a concentrated amount of nutrients or other components having favorable physiological effects. It comes in powder, capsule, powder in sachets, liquid in a bottle with a dropper, and other forms to suit the right amount. Dietary supplements are not medications, and their usage is not controlled by pharmacopeia (Wrzeniewska et al. 2007). Collagen is the primary structural protein of many connective tissues, including skin, bone, cartilage, and tendons, and accounts for about one-third of all protein in the human body. It is derived from collagen-rich substances and boiling water, which is known as gelatin. Gelatin is extracted from a variety of sources, and from different animal parts, such as pig skin (46%), bovine hide (29.4%), and bone (23.1%). However, due to faiths, cultures, and health concerns, fish gelatin has earned a lot of attention in recent years (Ali et al. 2016). Additionally, hydrolyzed collagen is the product of further enzymatic hydrolysis of gelatin (CH). Many nations and regions, including the United States, Europe, China, and Japan, have long employed CH in medicine and food. The Food and Drug Administration (FDA) center for food safety and nutrition has approved CH as Generally Recognized as Safe (GRAS). The bioavailability and absorption of CH have also received a lot of attention. CH is more easily absorbed and has better bioavailability than gelatin (Ohara et al. 2010; Hatanaka et al. 2014).

Aging and a poor diet can reduce the amount of collagen in the body. These alterations are not perceptible in the early stages of life but become apparent in the maturity period when food consumption does not reach the necessary