

College: Veterinary Medicine

Student's Name: Methaq Fasial Yousif

Dept.: Surgery

Supervisor's Name: Prof. Dr. Abdalbari A. Al-Faris

Certificate: Master

Specialization: Surgery

Title:

Effect of Hyaluronic Acid and Helium-Neon laser on the regeneration of the facial nerve in bitches

Abstract:

The aim of this study were to investigate effect of Hyaluronic Acid (H.A.) and He- Ne Laser on the regeneration of facial nerve and compared between them. Twelve (12) adult healthy dogs were used. Dogs were divided randomly into three equal groups: Control Group, Hyalournic Acid H.A. group and Laser Group. Each group includes four animals for clinical evaluation, macroscopical examination, conduction volicity and histopathological examination.

Facial Nerve had been cut in the left side face after the departure of the nerve of stylomastoid foramen and passes through the parotid gland, which is divided into five main branches and controls the muscles terms face and two-thirds of the inner part of the tongue on the process for taste and oral cavity, then nerve coaptated immediately by nylon suture 5-0 with end-to-end anastomosis coaptation, using simple interrupted suture and the skin sutured immediately by silk suture 0-3 mm with end-to-end coaptation , using simple interrupted suture After 48 hours post operation , laser groups were expose to laser He-Ne for 10 minute/daily continue to period 10 days. But in the hyaluronic acid group , the dogs were injected with hyaluronic acid drug at a dosed 1 ml /20kg Bw injection once adays after 48 hours post operation. .The clinical findings for control group revealed the paralysis or weakness of the muscles of ears, eyelids, lips and nostrils appear after 48 hour post operation .also in the Hyaluronic Acid Group the signs are similar to control group but the disappear. Those symptoms began after 5 days injection of Hyaluronic acid, the animal seems normal after two weeks post injection.

The laser group had been exposed to the laser for 10 days and the symptoms begin gradually to disappear. But the macroscopic examination and neurohistopathological examination and show that accelerated the regeneration of facial nerve and improvement of the motor and sensory function of the nerve was best in the Hyaluronic Acid Group followed by the Laser Group .The conclusions of this study was of Hyaluronic acid accelerated regeneration of nerve and increase blood flow to the affected.