

Impact of using Wooden Spoon as Eye Protection in Ablation of Bovine Ocular Growth with Carbon Dioxide Laser

Anjana Patel (Ph.D. Scholar, Mumbai Veterinary College, Maharashtra Animal & Fishery Sciences University, Nagpur)

Co-authors: P. T. Sutaria, P. B. Patel, S. H. Raval, Priyanka Jatav, Parikunwar L. Parmar

Abstract: Twelve bovines with ocular growths were selected and randomly divided into two groups with six animals in each group. In Group 1 saline soaked gauze piece while, in Group 2 saline soaked sterile wooden spoon was used for corneal protection during surgery. All the 12 animals were sedated with xylazine @0.1 mg/kg b.wt. i/m. The anaesthetic induction and maintenance with double drip solution using guaifenesin @50 mg/kg bwt and ketamine @2 mg/kg bwt i/v in 5% DNS was followed. The 9-10 W power output in continuous mode used in both groups in excising all ocular growths in bovines and left unsutured. Postoperative treatment was given for 5 days. In group 1 healing was uneventful in four animals while ocular discharge was observed in two cows. In group 2, majority of the animals (5/6) showed uneventful recovery except one cow which showed corneal opacity and discharge at 3rd day after surgery due to self mutilation. All 12 excised tumor samples were examined microscopically and diagnosed as squamous cell carcinoma (SCC). All 12 animals did not show reoccurrence at least 3 month post surgery.

Keywords: Wooden spoon, Schirmer tear test, Fluorescein dye test, Ocular growth, Carbon dioxide laser, ocular temperature, infrared thermometer, Squamous cell carcinoma (SCC)

REFERENCES

- [1]. Beech, J., Zappala, R. A., Smith, G., & Lindborg, S. (2003). Schirmer tear test results in normal horses and ponies: effect of age, season, environment, sex, time of day and placement of strips. *Veterinary Ophthalmology*, 6(3), 251-254.
- [2]. Beech, J., Zappala, R. A., Smith, G., & Lindborg, S. (2003). Schirmer tear test results in normal horses and ponies: effect of age, season, environment, sex, time of day and placement of strips. *Veterinary Ophthalmology*, 6(3), 251-254.
- [3]. Calin, M. A.; Coman, T. O. M. A. and Calin, M. R. 2010. The effect of low-level laser therapy on surgical wound healing. *Romanian Reports in Physics*. 62(3): 617- 627.
- [4]. Carreira, L. M. and Azevedo, P. 2016. Comparison of the influence of CO₂-laser and scalpel skin incisions on the surgical wound healing process. *ARC Journal of Anesthesiology*. 1(3): 1-8.
- [5]. Farghali, H. A., AbdElKader, N. A., AbuBakr, H. O., Ramadan, E. S., Khattab, M. S., Salem, N. Y., & Emam, I. A. (2021). Corneal ulcer in dogs and cats: novel clinical application of regenerative therapy using subconjunctival injection of autologous platelet-rich plasma. *Frontiers in Veterinary Science*, 8, 641265.
- [6]. Ng, A. T., McMullen, R. J., Shaw, G. C., Passler, T., & Stockler, J. (2023). Limbal Squamous Cell Carcinoma in a Black Baldy Cow: Case Report and Surgical Treatment. *Case Reports in Veterinary Medicine*, 2023.
- [7]. Paczuska, J., Kielbowicz, Z., Nowak, M., Antończyk, A., Ciaputa, R., & Nicpoń, J. (2014). The carbon dioxide laser: an alternative surgery technique for the treatment of common cutaneous tumors in dogs. *Acta Veterinaria Scandinavica*, 56(1), 1-4.
- [8]. Semiekaa, M., Abdelbaset, A., Hussein, M. T., Hussein, M. K., Attaai, A. H., & Hamed, M. A. (2023). The Comparative Effect of Total Versus Partial Surgical Excision of Nictating Membrane on The Aqueous Tear Production and Ocular Surface Health in Donkeys (Equus asinus). *Journal of Advanced Veterinary Research*, 13(2), 166-173.

- [9]. Tofflemire, K. L., Whitley, E. M., Gould, S. A., Dewell, R. D., Allbaugh, R. A., Ben-Shlomo, G., & David Whitley, R. (2015). Schirmer tear test I and rebound tonometry findings in healthy calves. *Veterinary ophthalmology*, 18(2), 147-151.