

## **Prognosis indicators and economic implications of advanced bovine ocular squamous cell carcinoma after radical surgery**

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### **Abstract**

The productive life span of animals is shortened and the carcass devalued by ocular squamous cell carcinoma. This causes remarkable economic losses in the cattle industry, particularly because the disease is most common at the peak of production (Farris and Fraunfelder 1976; Cordy 1978). The carcinoma lesion initially involves the third eyelid, then spreads to the globe (Fox 1963), the eyelids (Spradbrow and Hoffmann 1980), and even the orbital bones (Brier, Kleinschuster, and Corbett 1979). In most cases, squamous cell carcinoma does not involve the orbit, but when it does, the prognosis is extremely guarded (Rebhun 1979). For such cases it is recommended that the animal be destroyed because effective enucleation would be unsuccessful. Occasionally, the lesion spreads to the draining lymph nodes, sinuses and the brain (Brier, Kleinschuster and Corbett 1979). Ocular squamous cell carcinoma is frequently subject to physical trauma and becomes infected and even infested with fly larvae (Spradbrow and Hoffmann 1980). When neglected, the carcinoma becomes ulcerated, infected and discharges foul smelling exudate. Apart from surgical excision, most other available methods of treatment are only effective for early carcinoma lesions (Spradbrow and Hoffman 1980). However, according to Rubin (1984), excisional surgery is most successful in superficial lesions whose margins are clearly distinct and within reach. For advanced extensive carcinoma lesions, a more radical surgery involving removal of most of the ocular and adjacent tissues is advocated (Spradbrow and Hoffmann 1980), and prognosis is even better when radical surgery involves block resection including removal of draining and adjacent lymph nodes such as the parotid (Brier, Kleinschuster, and Corbett 1979). Observation has revealed that most cases are not presented for treatment until the neoplasm is quite advanced and complicated (Fox 1963). In such cases the prognosis is poor even with the most radical surgery. Due to vast economic losses encountered, this paper is intended to point out some factors of advanced ocular carcinoma, as observed in seventeen cows, that may be used in making the prognosis before surgery is attempted. This of course would minimize economic losses from surgery and post-operative complication management of ocular squamous cell carcinoma. This article therefore correlates the clinical manifestation of the carcinoma lesions with the outcome of treatment.