Premature loss of permanent incisor teeth and gingival hyperplasia in cattle in southern Brazil

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In December 2001 we observed permanent central teeth in animals from a small bovine crossbred herd in the city of Lageado, State of Rio Grande do Sul, southern Brazil. Five adult cattle of both sexes, aged 3 to 8 years old, were involved.

The complaint was weight loss, weakness and emaciation due to premature loss of permanent incisor teeth with marked, localized gingival hyperplasia. This condition was not observed in previous years on the property or in farms nearby. The disease was observed only in animals grazing in a paddock of stony soil with scant, poor quality, weedy forage. Clinical findings included widened spaces between permanent central incisor teeth (I₁ and I₂) accompanied by focal, prominent, annular thickening of the free gingival margin of incisors, drooling, and central incisor loosening or loss. A single, large, pink, exophytic gingival mass replaced missing incisors. These solitary gingival lesions had a smooth, multilobulated external surface and a homogeneous, white cut surface.

One stunted animal was euthanized and examined. It was unthrifty with a rough coat, loss of hair pigment, submandibular swelling, loose incisors, and ulcerated bleeding gingival tissues. Gross findings included subcutaneous submaxillary edema, serous atrophy of fat and atrophic ruminal papillae. Reduced bone strength was noticed but fractures were absent. Microscopic examination of a biopsied gingival outgrowth revealed marked hyperplasia of gingival epithelium with anastomosing rete pegs growing into a stroma of dense, mature, abundant connective tissue. No bacteria were cultured from this gingival mass. No lesions were detected radiographically or histologically in mandibular bone.

Animals were removed from the paddock, housed individually, fed a grain-based diet and green-cut forage, and after recovery were sent for slaughter. Laboratory test results, i.e. blood biochemistry profile and mineral levels in tissues, pasture and soil, were not available. Follow-up at the abattoir was not possible. A specific cause for the oral lesions couldn't be determined. The disorder is probably multifactorial.

We suggest that the space-occupying oral lesions largely represented an exaggerated proliferative gingival response to irritation and trauma among animals grazing in a stony, weedy paddock with poor quality forage, and adversely affected the ability of cattle to feed leading to starvation and wasting. The gingival lesions can be compared to localized fibromatous epulis of cattle and gingival hyperplasia-periodontal fibrous epulis of dogs. Loss of alveolar bone accompanied by incisor loss is described in osteopenic diseases of cattle associated with mineral deficiencies or imbalances and should also be considered here since affected animals were grazing in an area with scarcity of adequate forage. Diseases of cattle and sheep characterized by incisor or cheek tooth loosening or loss are infrequently described. Ruminants with periodontal disease, as seen in bovine leukocyte adhesion deficiency (BLAD), "cara inchada" (swollen face) in cattle central-western Brazil, and "broken mouth" of sheep, or osteopenia, as observed in familial hemochromatosis of Salers cattle, can present with tooth loss. Absence of incisors or cheek teeth is reported in an abattoir survey of dental defects in cull cows in England and considered to be acquired as gingivae retract with increasing age, facilitating tooth loss. Incisor tooth loss was described in Scotland in suckler cows with localized gingivitis. Cattle should have all 4 permanent incisors by 4 years of age and incisor loosening or loss is abnormal beyond that age.

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