ATYPICAL ERYTHEMA MULTIFORME IN A FEMALE DONKEY

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SIGNALMENT, HISTORY AND CLINICAL PRESENTATION

A five-year-old French female donkey was referred for a chronic skin disorder of six months duration. The patient was stabled on straw with other donkeys, fed with grass hay and had free access to pasture. She was regularly dewormed and vaccinated against equine Influenza, tetanus, EHV-1, and EHV-4. An additional vaccination against West Nile Disease (WND) was administered for the first time in the previous late spring. Acute onset of clinical signs appeared during the early following summer. No other cohabitant donkey was involved. Clinical signs consisted of severe pruritus with self mutilation, generalized scaling, crusting, erosions, and ulcerations. A partial improvement of clinical signs was obtained only with systemic administration of high doses of corticosteroids but the donkey developed acute laminitis. Once steroids were discontinued, clinical signs worsened and the donkey was referred. On admission, the patient was lethargic and reluctant to move; no significant alterations were detected on physical examination, with the exception of a mild submandibular lymphadenomegaly. Clinical pathology showed a mild leukocytosis (16.300/mm3). Radiographic examination revealed sinking, palmar rotation and remodeling of the third phalanx due to chronic laminitis in both the forelimbs. Dermatologic examination revealed patchy but symmetrical hypotrichosis/alopecia with crusts, ulcerations and some areas of lichenification.

PROBLEM SUMMARY:

Chronic, severe and generalized dermatitis characterized by severe hitching and associated secondary lesions (scales, crusts, erosions, ulcerations) that improved after steroid administration. The dermatologic condition was complicated by development of bilateral forelimb laminitis related to systemic administration of high doses of corticosteroids.

DIFFERENTIAL DIAGNOSES, ANCILLARY DIAGNOSTIC TESTS AND DEFINITIVE DIAGNOSIS

Differential diagnoses included generalized ectoparasitic diseases (such as manges and pediculosis), suppurative pyoderma, dermatophytosis, dermathophylosis, lupus erythematosus and pemphigus. Brushing and skin scraping were performed and ruled out ectoparasitic diseases (mange and pediculosis). Skin scrapings and impression smears were submitted for cytologic evaluation; bacterial and fungal cultures were performed as well as histopathologic examination of multiple punch biopsy specimens of the skin. .Histopathology revealed lymphocytic interface dermatitis with multilevel apoptosis and satellitosis which is consistent with erythema multiforme. *Staphylococcus aureus* was cultured and multifocal suppurative epidermitis and suppurative crusts supported a diagnosis of superficial bacterial pyoderma. Interestingly there was also significant follicular atrophy which likely was the cause for the alopecia. A final diagnosis of erythema multiforme complicated by secondary superficial *S. aureus* pyoderma and follicular atrophy, was achieved. To investigate possible causes of EM, intra-dermal skin testing and nasal swab PCR for EHV-5 were performed; PCR was negative and skin test results were negligible, therefore the administration of the WND vaccination was considered as the most likely triggering factor for the onset of the disease.

TREATMENT AND OUTCOME:

The goal of early treatment was to stabilize the patient for laminitis and pyoderma by corrective trimming and shoeing, administration of phenylbutazone (2.2 mg/Kg IV SID for 14 days) and ceftiofur (4 mg/Kg SID IM for 7 days). Once the patient was stabilized, immunomodulatory treatment for EM was established. In order to limit dosage of corticosteroids because of the concurrent laminitis, a multimodal protocol was set up, consisting in a combination of pentoxifylline (10 mg/kg BID *per os*), azathiopirine (3 mg/kg SID *per os*) and prednisolone (1 mg/kg every 48 hours *per os*). Improvement of the general clinical and dermatologic condition was observed, throughout a period of approximately 3 months. Increase in body weight, significant reduction of pruritus and skin lesions, and

gradual hair coat regrowth led to almost complete recovery. Tapering of drugs was attempted, but there was recurrence of clinical signs, therefore, a lifelong treatment was advised. The patient was finally discharged and no recurrence of the disease has so far been reported.

DISCUSSION AND REFERENCES

EM is a rare condition in equine patients and, to our knowledge, it has never been reported in donkeys. Immune-mediated skin disorders, are rarely reported in donkeys. Localized pemphigus-like disease is the most frequently recognized condition[1]. EM is a cutaneous reaction pattern of multifactorial etiology. It is believed to be a host-specific T cell mediated hypersensitivity reaction in which the cellular immune response is directed against various keratinocyte-associated antigens, including those associated with drugs and vaccine administration, infection (including EHV-5), neoplasia, and connective tissue disease[2]. In this case, the most likely triggering factor hypothesized was vaccination against WND, since there was an apparent correlation between vaccine administration and onset of clinical signs, and other possible causes such as hypersensitivity reactions and EHV-5 infection were ruled out. The present case shows an unusual clinical presentation of equine EM, since severe pruritus was present and EM-associated primary lesions such as urticarial plaques, annular type lesions with a central depression, vesicular/bullae type lesions were absent at the time of hospitalization. In this case, the severe pruritus and self mutilation, related to the chronic pyoderma, may have produced the severe secondary lesions which hid the primary lesions.[2] Therapeutic dose ranges for azathioprine and pentoxifylline are defined in horses[3,4] but there are no studies concerning their use in donkeys. Pharmacokinetics of drugs may differ in donkeys, since their evolutionary adaptation to water deprivation led to different absorption and distribution kinetics.[5] In our experience, improvement of the patient's clinical condition, without onset of side effects, was evident only after the administration of a multimodal immunomodulatory protocol administered for a prolonged period of time, using a dose regimen reported for horses.

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