

Skin disease in donkeys (*Equus asinus*): a retrospective study from four veterinary schools

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Background – Donkeys are important throughout the world as work animals and occasionally as pets or a meat source. Most descriptions of skin disease in donkeys are reported in small case series, textbooks or review articles.

Hypothesis/Objectives – To document skin diseases and their prevalence in donkeys and to investigate predilections for the most common conditions.

Animals – Case populations at four veterinary schools totalling 156 donkeys.

Methods and materials – A retrospective study was performed by searching computerized medical records, using the key word “donkey”, at the School of Veterinary Medicine, University of California, Davis (UCD). Records of donkeys from the veterinary schools in Nantes, France; Utrecht, Netherlands and Ghent, Belgium were searched in a similar manner. The time periods included in the searches varied by institution.

Results – At UCD, 83 of 346 (24%) of donkeys had skin disease noted in their records. The most common diagnoses were insect bite hypersensitivity, sarcoid and habronemiasis. At Nantes, 36 of 144 (25%) had skin disease and the most common diagnoses were sarcoid and superficial pyoderma. At Utrecht 23 of 143 (16%) had skin disease and the most common diagnosis was dermatophytosis. At Ghent, 14 of 320 (4%) had skin disease and the most common diagnosis was sarcoid.

Conclusions and clinical importance – Cutaneous conditions in donkeys are common. Age, sex and breed predisposition and the most common diagnoses varied with geographical location. Clinicians should include a dermatological examination regardless of the reason for presentation.

Introduction

Donkeys (*Equus asinus*) are a species utilized throughout the world primarily as beasts of burden, and occasionally for other functions such as a meat source or as pets.^{1,2} Although closely related to horses and zebras (with both of which they can produce sterile hybrids), they have some unique features of their own in regards to disease.² To the best of the authors' knowledge, a large case series delineating skin diseases in donkeys has not been published. Thus, the purpose of this retrospective study was to document skin diseases and their prevalence in donkeys, to investigate predilections for the most common conditions, using data from four veterinary schools.

Methods and materials

A retrospective study was performed by searching computerized medical records seen at the School of Veterinary Medicine, University of California, Davis (UCD) from 1 January 1985 to 1 January 2018 using “donkey” as the keyword. Records of donkeys at the Ecole Nationale Vétérinaire, Agroalimentaire et de l'Alimentation Nantes Atlantique (ONIRIS), Nantes, France (1 September 1998 to 1 December 2013); Faculty of Veterinary Medicine, Utrecht University, The Netherlands (1 May 2000 to 1 June 2018) and Faculty of Veterinary Medicine, University of Ghent, Belgium (1 March 2009 to 1 April 2014) were searched in a similar manner. Breed, age and sex data were evaluated for predilection to skin diseases when compared between donkeys with and without dermatoses. The most common skin diseases were tabulated, and treatment and follow-up, when available, were noted. PubMed (<https://www.ncbi.nlm.nih.gov/pubmed>) was searched for diseases that were thought to be previously unreported in donkeys at the time of writing and so noted.

Statistical analysis

Breed and sex predisposition for skin disease was measured using Fisher's exact test or Pearson's chi-square test when there were more than five donkeys in a breed. Association between

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age and prevalence of skin diseases, and age and the presence of sarcoids specifically, was measured using the Kruskal–Wallis rank sum test. As much as could be determined from the medical record, the variable “age” refers to the age of onset. When appropriate, differences in age between donkeys with skin disease and those without were measured using the Kruskal–Wallis rank sum test. The cut-off *P*-values for 95% confidence intervals of all tests were set at 0.05 to indicate statistical significance. All statistics were performed using the software programme BiostatTGV (<https://biostatgv.sentiweb.fr/>).

Results

Signalment is reported in Table 1, clinical presentations in Table 2 and diagnoses in Table 3.

UCD

The total number of donkeys seen during the time period was 346 of which 83 (24%) had skin disease. Miniature donkeys were less likely to have a skin disease ($P = 0.014$). Overall there was no association between age and prevalence of skin diseases ($P = 0.12$). However, donkeys three years of age or younger were less likely to have a skin disease ($P = 1.2 \times 10^{-6}$) than older animals. There were no statistically significant differences in sex between the donkeys with and without skin disease ($P = 0.7$).

The most common presentations were nodules and alopecia. The most common diagnoses were insect bite hypersensitivity, sarcoid and habronemiasis. Sporotrichosis

Table 1. Signalment for all donkeys included in the survey of skin disease from four veterinary schools

		With skin disease (%) N = 83 (24%)	Without skin disease (%) N = 263 (76%)
University of California, Davis			
Breeds	Donkeys	50 (60)	128 (49)
	Miniature donkeys	20 (24)	104 (40)
	Mammoth donkeys	5 (6)	11 (4)
	Burros	6 (7)	14 (5)
	Sicilian donkey	1 (1)	4 (1)
Sex	Jacks	17 (20)	43 (16)
	Geldings	28 (34)	98 (37)
	Jennies	37 (45)	119 (46)
Median age (range)		10.5 years (six months–26 years)	Five years (of 248 donkeys of known age) (1 day–27 years)
Ecole Nationale Veterinaire, Agroalimentaire et de l'Alimentation Nantes Atlantique			
Breeds	Donkeys	20 (55)	70 (65)
	Cotentin donkeys	5 (11)	5 (5)
	Poitou donkeys	5 (11)	16 (15)
	Normand donkeys	3 (8)	1 (1)
	Pyrenees donkey	1 (3)	1 (1)
	Provence donkey	1 (3)	4 (3)
	Great Black of Berry donkey	1 (3)	4 (4)
	Miniature donkeys	0	3 (3)
	Cross-breeds	0	4 (4)
Sex	Jacks	15 (42)	29 (28)
	Geldings	13 (36)	44 (43)
	Jennies	8 (22)	29 (28)
Median age		Five years (range 1.5–25 years)	Four years (range 15 days–26 years)
Utrecht Faculty of Veterinary Medicine, Utrecht University			
		With skin disease (%) N = 23 (16%)	Without skin disease (%) N = 122 (84%)
Breeds		Data not available	
Sex	Jacks	2 (5)	28 (23)
	Geldings	6 (29)	56 (46)
	Jennies	12 (57)	38 (31)
Median age (range)		14 years (one–25 years)	10 years (one day–38 years)
Ghent Faculty of Veterinary Medicine, University of Ghent			
		With skin disease (%) N = 14 (4%)	Without skin disease (%) N = 306 (96%)
Breeds		Data not available	
Sex	Jacks	4	80 (26)
	Geldings	8	131 (43)
	Jennies	2	88 (29)
	Unknown	0	7 (2)
Median age (range)		13.9 years (two–26 years)	14.4 years

(Figure 1) and *Corynebacterium pseudotuberculosis* cutaneous infection (Figure 2) were notable among the infectious disease cases.

Where noted in the medical record, the type of sarcoid (occult, verrucous, fibroblastic, mixed) is reported in Table 3. Six donkeys with sarcoids were treated with surgery alone, two with surgery and cisplatin, and one with surgery and radiation. Successful treatment (no recurrence) was recorded for two donkeys treated with surgery alone, one with surgery and cisplatin, and one with surgery and radiation. Fly bite dermatitis/hypersensitivity was treated in six donkeys with fly spray (product not noted), fly masks and ichthammol ointment (as a physical barrier) – improvement or resolution was noted in the only two donkeys with follow-up. Habronemiasis was treated with an ointment containing triamcinolone and nitrofurazone, with no follow-up recorded. Four cases of cutaneous bacterial infection, including one case of *Corynebacterium pseudotuberculosis*, were treated successfully with trimethoprim-sulfamethoxazole (TMS), doses approximating 30 mg/kg twice daily from one to six weeks in duration. Pituitary pars intermedia dysfunction (PPID) was treated with pergolide (initial dose approximating to 1.0 µg/kg day); only one case had follow-up, with decrease in ACTH levels to normal and shortening of hair coat length. Sunburn on one donkey was treated with a vitamin A and E cream and one month later had lessened in intensity. A donkey with sporotrichosis was treated successfully with potassium iodide and fluconazole and did well for at least seven years on follow-up. A donkey with dermatophilosis was treated with an ethyl lactate-based shampoo, without follow-up.

ONIRIS

The total number of donkeys seen was 144 of which 36 (25%) had skin disease. In general, breed was associated with the prevalence of skin disease ($P = 0.049$) and Normand donkeys in particular were more likely to be

affected ($P = 0.035$). The prevalence of skin disease in Cotentin donkeys approached statistical significance ($P = 0.052$).

Jennies were significantly less likely to have skin disease ($P = 0.0016$), whereas the prevalence in jacks approached statistical significance ($P = 0.058$). Age was significantly associated with skin disease ($P = 0.0002$) and donkeys three years of age or younger were less likely to have skin disease ($P = 0.04$).

The most common presentations were nodules and alopecia. The most common diagnoses were sarcoid and superficial pyoderma. A case of gestational pemphigus foliaceus in a jenny was documented during three of her five pregnancies. (Figure 3). As at UCD, a case of sterile panniculitis with fat necrosis and mineralization was diagnosed (Figure 4).

Fourteen donkeys with sarcoids were treated with surgery alone, two with surgery and cryotherapy, one with cryotherapy and cisplatin, one with Bacillus Calmette–Guérin (BCG) injections, and one with a topical herbal paste containing Indian blood root (XXTERRA™, Larson Laboratories, Inc.; Fort Collins, CO, USA). Follow-up was available at one month after treatment with cryotherapy and cisplatin, and two months after BCG injections; in both cases a “good effect” was recorded.

Three donkeys with superficial pyoderma were treated with trimethoprim-sulfamethoxypyridiazine plus chlorhexidine-based shampoos and sprays. One other donkey was treated with chlorhexidine shampoo only. Two of the donkeys treated with the antibiotic were reported to have responded well. Fly bite hypersensitivity was treated with permethrin-based sprays; lice infestation was treated with lindane (Véticide®, Vétquinol; Paris, France) and dermatophytosis with enilconazole (Imaveral® Lilly France; Neuilly sur Seine, France). Follow-up was not recorded for these cases. Pemphigus foliaceus in a jenny resolved with parturition of the affected pregnancies. The donkey with sterile panniculitis responded initially to

Table 2. Clinical signs of donkeys with skin disease

Clinical presentation [†]	UCD (n = 83) Number of cases noted (%)	ONIRIS (n = 36)	Utrecht (n = 23)	Ghent (n = 14)
Masses/nodules	16 (19%)	16 (44%)	2 (9%)	7 (50%)
Alopecia	15 (18%)	13 (36%)	11 (52%)	2 (14%)
Crusts	7 (8%)	8 (22%)	-	-
Scales	-	5 (14%)	-	-
Erythema	-	-	-	1 (7%)
Lichenification	-	2 (5%)	-	-
Ulcers	6 (7%)	3 (8%)	-	-
Urticaria	-	-	-	1 (7%)
Pigmented macules	-	1 (3%)	-	-
Pruritus	2 (2%)	1 (3%)	8 (38%)	2 (14%)
Hirsutism	4 (5%)	-	1 (5%)	-
Corded lymphatics	-	-	-	1 (7%)
Aural plaques	-	-	1 (5%)	-
Skin sloughing	-	-	1 (5%)	-
Abscesses	6 (7%)	-	-	-
Urine scalding	2 (2%)	-	-	-
“Dermatitis”	11 (13%)	-	3 (14%)	-

UCD University of California, Davis, ONIRIS Ecole Nationale Vétérinaire, Agroalimentaire et de l’Alimentation Nantes Atlantique, Utrecht Faculty of Veterinary Medicine, Utrecht University, Ghent Faculty of Veterinary Medicine, University of Ghent.

[†]Note that a donkey could have more than one clinical sign.

Table 3. Diagnoses of donkeys with skin disease

Diagnoses	Number (%)	Diagnostic method
University of California, Davis		
Insect bite hypersensitivity	11 (13)	<ul style="list-style-type: none"> • Clinical diagnosis (nine) • Consistent histopathological findings (two)
Sarcoid	9 (11)	Histopathological evaluation <ul style="list-style-type: none"> • Nodular (three) • Mixed verrucous-fibroblastic (one) • Type not specified (five)
Habronemiasis	6 (7)	<ul style="list-style-type: none"> • Clinical diagnosis (three) • Consistent histopathological findings (one) • Positive histopathological findings (two)
Pituitary pars intermedia dysfunction	4 (5)	Elevated ACTH levels
<i>Corynebacterium pseudotuberculosis</i>	3 (4)	Bacterial culture
Sterile panniculitis with fat necrosis and mineralization	2 (2)	<ul style="list-style-type: none"> • Histopathological evaluation on postmortem examination • Negative Gram-stain on cytological evaluation
Inflammatory polyp	1 (1)	Histopathological evaluation
Dermatophilosis	1 (1)	Clinical diagnosis
Sporotrichosis	1 (1)	<ul style="list-style-type: none"> • Histopathological evaluation • Fungal culture
Sunburn	1 (1)	Clinical diagnosis
Vasculitis	1 (1)	Histopathological evaluation
Ecole Nationale Veterinaire, Agroalimentaire et de l'Alimentation Nantes Atlantique		
Sarcoid	7 (19)	<ul style="list-style-type: none"> • Histopathological evaluation <ul style="list-style-type: none"> ○ Fibroblastic (four) • Clinical suspicion (11) <ul style="list-style-type: none"> ○ Verrucous (one) ○ Fibroblastic (four) ○ Nodular (one)
Superficial pyoderma	5 (14)	Cytological evaluation—cocci and neutrophils (degenerative and/or phagocytosis)
Fly bite hypersensitivity	5 (14)	Clinical diagnosis
Lice	2 (6)	Direct observation
Sterile panniculitis with fat necrosis and mineralization	1 (3)	<ul style="list-style-type: none"> • Histopathological evaluation • Negative cultures • Response of active lesions to prednisolone treatment
<i>Chorioptes</i>	1 (3)	Skin scrape
Pemphigus foliaceus	1 (3)	<ul style="list-style-type: none"> • Cytological evaluation • Histopathological investigation
Utrecht Faculty of Veterinary Medicine, Utrecht University		
Dermatophytosis	4 (19)	<ul style="list-style-type: none"> • Fungal culture (two) • Response to treatment (two)
Sarcoid	4 (19)	<ul style="list-style-type: none"> • Histopathological evaluation (three) <ul style="list-style-type: none"> ○ Verrucous (one) ○ Fibroblastic (one) ○ Mixed nodular-fibroblastic (one) • Clinical suspicion (one)
Allergic dermatitis	3 (14)	<ul style="list-style-type: none"> • Clinical diagnosis • Histopathological investigation (one)
Lice	2 (10)	Direct observation
Suspected ectoparasites	2 (10)	<ul style="list-style-type: none"> • Clinical diagnosis • Response to treatment
<i>Chorioptes</i> sp.	1 (5)	Skin scrape
Bacterial dermatitis	1 (5)	<ul style="list-style-type: none"> • Clinical diagnosis • Response to treatment
Pituitary pars intermedia dysfunction	1 (5)	<ul style="list-style-type: none"> • Clinical diagnosis • Response to treatment
Epidermolysis bullosa	1 (5)	<ul style="list-style-type: none"> • Clinical diagnosis • Histopathological evaluation
Aural plaques	1 (5)	Clinical diagnosis
Maggots	1 (5)	Direct observation

Table 3. (Continued)

Diagnoses	Number (%)	Diagnostic method
Ghent Faculty of Veterinary Medicine, University of Ghent		
Sarcoid	7	<ul style="list-style-type: none"> ● Histopathological evaluation (two) ● Clinical suspicion (five) <ul style="list-style-type: none"> ○ Verrucous sarcoid (two) ○ Nodular (two) ○ Mixed verrucous-fibroblastic (two) ○ Fibroblastic (two)
Dermatitis	2	Clinical diagnosis
Urticaria, probably allergic in origin	1	Clinical diagnosis
Alopecia areata	1	Histopathological evaluation
Besnoitiosis	1	Histopathological evaluation
Lymphangitis	1	Clinical diagnosis
Unknown	1	-

Note that a donkey could have more than one diagnosis.

prednisolone treatment although it was subsequently euthanized.

Utrecht

The total number of donkeys seen was 143 of which 23 (16%) had skin disease. The prevalence in jacks approached statistical significance ($P = 0.053$). Age was not associated with skin disease ($P = 0.9$). Breed information was not available.

The most common presentations were alopecia and pruritus; the most common diagnosis was dermatophytosis. Sarcoids were uncommon compared to the other institutions (Figure 5).

Three of the four cases of dermatophytes were treated successfully to resolution with a dermatophyte vaccine (INSOL DERMATOPHYTON[®], Prequine[®]; Zuid Scharwoude, The Netherlands) in two cases, or enilconazole washes in one case; the fourth was diagnosed at post-mortem examination. Two of three sarcoids were treated successfully by surgical removal, and the third was controlled with surgical debulking and cisplatin injections. Of the donkeys with allergic dermatitis, one was euthanized, one responded to topical corticosteroid ointment, and one was treated with a short course of dexamethasone and prednisone with a diet change to hay and carrots – the pruritus subsequently resolved. Organophosphate (Foxim[®] Bayer Animal; Mijdrecht, The Netherlands) washes were successful in treating the two donkeys with suspected ectoparasite infestations, two with confirmed louse infestations and those with *Chorioptes* mites or maggots. The donkey with PPID was treated successfully with pergolide. The donkey foal with epidermolysis bullosa was euthanized at one month of age (Figure 6).

Ghent

The total number of donkeys seen was 320 of which 14 (4%) had skin disease. Geldings were significantly less likely to have skin disease ($P = 0.044$). Age information was available only for 108 donkeys, but was significantly associated with skin disease ($P = 2.2 \times 10^{-10}$) and donkeys older than five years of age were more likely to be affected ($P = 2.1 \times 10^{-14}$). Breed information was not available. The most common clinical sign was nodules

and the most common diagnosis was sarcoid. A case of alopecia areata (Figure 7) is reported here for the first time.

Three sarcoids were treated with BCG, with two showing total remission and one partial remission. Three were treated with surgical excision (one case with one month follow-up without recurrence, two without follow-up) and one with surgical excision and cisplatin (no response, tumours persisted). One of the donkeys with pruritus responded to prednisolone and lime-sulfur washes. The donkey with lymphangitis responded to trimethoprim-sulfonamide and bandaging with medical-grade honey ointment (L-Mesitran[®]; Maastricht, The Netherlands).

The donkey with alopecia areata was followed for three years. The disease initially responded to oral prednisolone



Figure 1. Nine-year-old jenny with sporotrichosis.

Note ulcerative plaques on inner thigh and ventral abdomen. Reproduced with permission from John Wiley & Sons; from Crothers S, White SD, Ihrke PJ, et al. Sporotrichosis: a retrospective evaluation of 23 cases seen in northern California (1987–2007) *Vet Dermatol* 2009; 20: 249–259.



Figure 2. Seven-year-old mammoth jenny with *Corynebacterium pseudotuberculosis* infection. Note (a) thin body condition and (b) nodules on distal legs. Reproduced with permission from Elsevier; from White SD. Donkey Dermatology. *Vet Clin North Am Equine Pract* 2013; 29: 703–708.

but the development of laminitis required discontinuation of the treatment. The alopecic areas enlarged in November of each year and hair regrowth did not occur, despite discontinuation of vaccines which were suspected to be the cause of seasonal exacerbations.

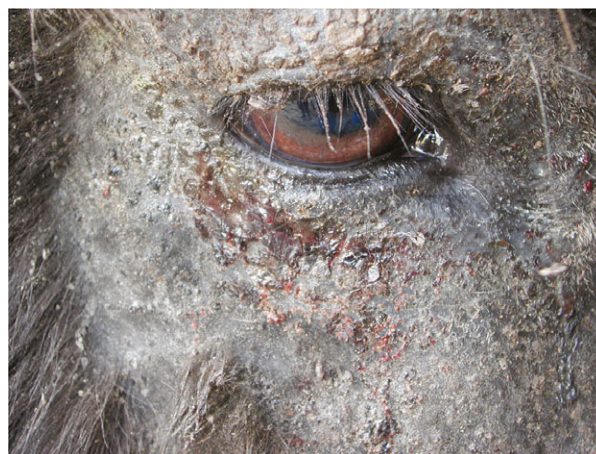


Figure 3. Eight-year-old Normand jenny with pemphigus foliaceus, occurring only during three of five pregnancies. Note crusts and scales around eye (courtesy J Baudry).



Figure 4. Seventeen-year-old jenny with sterile panniculitis. Note large draining tracts.

Statistical analysis for combined cases

Using data from all four schools, age was significantly associated with skin disease ($P = 0.01$) with donkeys older than four years being more likely to have skin disease ($P = 0.03$). Age also was significantly associated with sarcoid when compared to donkeys with other skin diseases ($P = 1.2 \times 10^{-11}$). Diagnosis of sarcoid was significantly more likely in donkeys between four and seven years of age ($P = 2.4 \times 10^{-7}$) or, more generally, younger than seven years of age ($P = 0.0001$).

Discussion

This retrospective study reports a series of 154 donkeys with skin disease from a total of 938 donkeys examined at four university veterinary hospitals over similar periods of time. This equates to a 16.4% average, which indicates that dermatological problems are an important cause of morbidity in donkeys.

Age, breed and sex predilections for skin disease varied among the four institutions contributing data. This may have been due to differences in age and sex distributions

in the overall populations of donkeys at each institution, and undoubtedly due to the fact that some breeds were exclusive to only one institution. However, clinical presentations were similar across institutions, with nodules and alopecia usually being the most common. Diagnoses also were similar, with ectoparasites and/or insect bite hypersensitivity frequently noted. Insect bite hypersensitivity, caused by *Culicoides* spp., has been reported previously in donkeys.³ It is interesting to note that pruritus was not a common clinical presentation despite the high prevalence of ectoparasites and insect bite hypersensitivity. This may indicate that donkeys have a higher pruritic threshold than is seen in horses, or, more likely (in the opinion of the authors), that some owners were not in contact with their donkey frequently enough to observe clinical signs of pruritus.

Sarcoids were the most common diagnosis for nodules and have been reported previously as the most common cutaneous neoplasm.⁴ As in horses, a role for bovine papilloma virus is probable.^{5,6} The prevalence of sarcoids in donkeys has been reported to be most common in the fourth year of life,⁷ which agrees somewhat with our data. Skin lesions suggestive of sarcoids were not always sampled for histopathological evaluation at any of the institutions. One study reported an 80% chance of accuracy in judging such lesions solely on the basis of clinical presentation.⁸ It is interesting to note that when data from all institutions were considered, donkeys over four years of age had greater odds of any skin disease being reported.

The occurrence of hitherto unreported (or rarely reported) diseases in donkeys is interesting. Sterile panniculitis, diagnosed with histological investigation



Figure 5. Nine-year-old gelding with nodular sarcoid on forehead.



Figure 6. One-month-old colt with epidermolysis bullosa. Note loss of surface skin on distal legs and deformation of ears.



Figure 7. Seven-year-old jenny with alopecia areata. Note hair loss over caudal half of trunk, rear legs and face.

and negative bacterial culture, was diagnosed in three donkeys in our study but only reported once previously.⁹ *Corynebacterium pseudotuberculosis*, a pathogen well investigated in horses,^{10,11} was isolated from three cases in our study, one of which was reported in a review article.¹² Another rarely reported pathogen in donkeys, *Sporothrix schenckii*, was seen in one of our cases.¹³ The cases of pemphigus foliaceus, epidermolysis bullosa and alopecia areata, the former two reported previously,^{12,14} demonstrate that these diseases, well-documented in horses,^{15–18} also exist in donkeys. These three diseases were diagnosed on the basis of histopathological investigation; electron microscopy and/or immunological staining were not performed. The diagnosis of PPID in five donkeys in this study further substantiates the occurrence of this rarely reported disease in this species.^{19,20}

It also is interesting to note that besnoitiosis, a disease caused by the protozoal organism *Besnoitia bennetti*,²¹ was diagnosed in only one case in our series (which was included in a prior report²²). This disease is presumably common in donkeys based upon the large number of cases reported in the literature,^{23–26} and both the disease

and antibodies directed against the organism are more prevalent in donkeys than in horses.^{12,27}

As with any retrospective study, complete medical records were not always retrievable and availability of data varied somewhat among institutions. In addition, owners' financial concerns sometimes prohibited pursuit of additional laboratory tests to confirm presumptive clinical diagnoses. However, most of the donkeys benefitted from examination by multiple clinicians (and often veterinary students) which allowed consensus of opinion and presumably improved the accuracy of diagnoses.

In conclusion, the prevalence of skin disease in donkeys ranged from 4 to 25% at participating institutions. The most common clinical presentations were nodules and alopecia. Pruritus may have been under-reported by owners, based on the prevalence of ectoparasites and insect bite hypersensitivity. Age, breed and sex predilections varied across institutions, although it appears that young donkeys may generally be at less risk for skin diseases.

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Résumé

Contexte – Les singes sont nombreux à travers le monde en tant qu'animal de travail et occasionnellement comme animal de compagnie ou comme source de nourriture. La plupart des descriptions des dermatoses du singe est rapportée dans de petites séries de cas, livres ou articles de revue.

Hypothèses/Objectifs – Documenter les dermatoses et leur prévalence chez le singe et d'étudier les prédilections pour les atteintes les plus fréquentes.

Sujets – Les populations de cas de quatre écoles vétérinaires totalisant 156 singes.

Matériel et méthode – Une étude rétrospective a été réalisée par recherche sur données numérisées à l'aide du mot clé « singe » à l'école vétérinaire, Université de Californie, Davis (UCD). Les données des singes de l'école vétérinaire de Nantes, France; Utrecht, Pays Bas et Ghent, Belgique ont été recherché de la même manière. Les périodes d'inclusion variaient selon les écoles.

Résultats – A UCD, 83 des 346 (24%) des singes avaient une dermatose notée dans leurs données. Le diagnostic le plus fréquent était l'hypersensibilité aux piqûres d'insectes, sarcoïde et habronérose. A Nantes, 36 des 144 (25%) présentaient une dermatose et les diagnostics les plus fréquents étaient sarcoïde et pyodermite superficielle. A Utrecht 23 des 143 (16%) avaient une dermatose et le diagnostic le plus fréquent était la dermatophytose. A Ghent, 14 des 320 (4%) avaient une dermatose et le diagnostic le plus fréquent était le sarcoïde.

Conclusions et importance clinique – Les dermatoses sont fréquentes chez le singe. L'âge, le genre, la race et le diagnostic le plus fréquent varient avec la position géographique. Les cliniciens doivent inclure un examen dermatologique quel qu'il soit le motif de consultation.

Resumen

Introducción – los burros son importantes en todo el mundo como animales de trabajo y, en ocasiones, como animales de compañía o como fuente de carne. La mayoría de las descripciones de enfermedades de la piel en burros se describen en series de casos pequeños, libros de texto o artículos de revisión.

Hipótesis/objetivos – documentar enfermedades de la piel y su prevalencia en burros e investigar la predisposición a las enfermedades más comunes.

Animales – casos recopilados de cuatro escuelas veterinarias sumando un total de 156 burros.

Métodos y materiales – se realizó un estudio retrospectivo mediante la búsqueda de historiales clínicos en la base de datos, utilizando la palabra clave "burro", en la Escuela de Medicina Veterinaria de la Universidad de California, Davis (UCD). Los historiales de burros de las escuelas de veterinaria de Nantes, Francia; Utrecht, Países Bajos y Gante, Bélgica se recopilaron de manera similar. Los periodos de tiempo incluidos en las búsquedas variaron según la institución.

Resultados – en la UCD, 83 de 346 (24%) de los burros admitidos tuvieron una enfermedad de la piel en su historial. Los diagnósticos más comunes fueron hipersensibilidad a la picadura de insecto, sarcoides y habronemiasis. En Nantes, 36 de 144 (25%) tuvieron una enfermedad de la piel y los diagnósticos más comunes fueron sarcoides y pioderma superficial. En Utrecht, 23 de 143 (16%) tuvieron una enfermedad de la piel y el diagnóstico más común fue la dermatofitosis. En Gante, 14 de 320 (4%) tuvieron una enfermedad de la piel y el diagnóstico más común fue sarcoides.

Conclusiones e importancia clínica – Las enfermedades cutáneas en burros son comunes. La edad, el sexo, la predisposición de la raza y los diagnósticos más comunes variaron según la ubicación geográfica. Los veterinarios deben incluir un examen dermatológico de estos pacientes independientemente de la razón de la presentación.

Zusammenfassung

Hintergrund – Esel sind auf der ganzen Welt wichtig als Arbeitstiere und gelegentlich als Haustiere oder als Fleischquelle. Die meisten Beschreibungen von Hauterkrankungen bei Eseln erschienen in kleinen Fallserien, in Textbüchern oder in Review Artikeln.

Hypothese/Ziele – Das Ziel dieser Studie war es die Hauterkrankungen und ihre Prävalenzen bei Eseln zu dokumentieren und die Prädilektionen für die häufigsten Zustände zu untersuchen.

Tiere – Es wurden Fallpopulationen aus vier Tierärztlichen Hochschulen verwendet, insgesamt waren es 156 Esel.

Methoden und Materialien – Eine retrospektive Studie wurde durchgeführt, indem computerisierte medizinische Daten an der School of Veterinary Medicine, University of California, Davis (UCD) unter Verwendung des Wortes „Esel“ durchsucht wurden. Die Krankenakten der Esel in den Veterinärschulen in Nantes, Frankreich; Utrecht, Holland und Ghent, Belgien wurden in einer ähnlichen Weise durchforstet. Die Zeitphasen, die durchsucht wurden, variierten zwischen den Institutionen.

Ergebnisse – In der UCD hatten 83 von 346 (24%) der Esel eine Hauterkrankung, die in der Krankengeschichte festgehalten wurde. Die häufigsten Diagnosen waren die Insektenstich Hypersensibilität, das Sarkoid und die Habronematose. In Nantes zeigten 36 von 144 (25%) eine Hauterkrankung und die häufigste Diagnose waren das Sarkoid und die superfizielle Pyodermie. In Utrecht zeigten 23 von 143 (16%) eine Hauterkrankung und die häufigste Diagnose war die Dermatophytose. In Ghent zeigten 14 von 320 (4%) eine Hauterkrankung und die häufigste Diagnose war das Sarkoid.

Schlussfolgerungen und klinische Bedeutung – Die Hauterkrankungen bei Eseln treten häufig auf. Alter, Geschlecht und Rassenprädisposition sowie die häufigsten Diagnosen variierten mit der geographischen Lage. KlinikerInnen sollten eine dermatologische Untersuchung inkludieren egal warum der Esel vorgestellt wird.

要約

背景 – ロバは仕事用動物として、そして時にはペットや肉の供給源として世界中において重要な動物である。ロバの皮膚病のほとんどの記述は小規模なケースシリーズ、教科書または総説で報告されている。

仮説/目的 – 本研究の目的は、ロバにおける皮膚疾患とその罹患率を文書化し、最も一般的な症状に対する好発性を調査することである。

被験動物 – ロバを飼育している4つの獣医学校での症例数合計156頭。

材料と方法 – カリフォルニア大学デイビス校(UCD)の獣医学部で、キーワード「ロバ」を使用して、コンピュータ化された医療記録を検索することによって遡及研究を行った。フランスのナント、オランダのユトレヒトおよびベルギーのゲントにある獣医学校においても同様にロバの記録を検索した。検索に含まれる期間は施設によって異なった。

結果 – UCDにおいて、346頭中83頭(24%)のロバが皮膚病に罹患していると記録されていた。最も一般的な診断は、虫刺されによる過敏症、サルコイドおよびハブロンミア症であった。ナントでは、144頭中36頭(25%)が皮膚疾患を有し、最も一般的な診断はサルコイドおよび表在性膿皮症であった。ユトレヒトでは143頭中23頭(16%)が皮膚疾患を有し、最も一般的な診断は皮膚糸状菌症であった。ゲントでは、320頭中14頭(4%)が皮膚疾患を患っており、最も一般的な診断はサルコイドであった。

結論と臨床的重要性 – ロバの皮膚症状は一般的である。年齢、性別、品種の素因および最も一般的な診断は地理的な場所によって異なった。臨床医は、来院理由にかかわらず、皮膚科検査を含めるべきである。

摘要

背景 – 驴在世界各地都是重要的实验动物,偶尔也作为宠物或肉类来源。驴皮肤病的报告多见于个案系列、教科书或综述文章。

假设/目标 – 记录驴皮肤病及其流行情况,并调查最常见的易感疾病。

动物 – 四所兽医学校治疗的156头驴病例。

方法和材料 – 使用关键词“驴”搜索计算机,对在加州大学戴维斯分校(UCD)兽医学院的病历进行回顾性研究。同时对来自法国南特兽医学院、荷兰乌得勒支和比利时根特记录的驴也以类似方式进行了搜查,搜索中包含的时间段因机构而异。

结果 – 在UCD的记录中,346头(24%)驴中有83头患有皮肤病,最常见的诊断是昆虫叮咬、过敏、肉样瘤和丽线虫病;在南特的记录中,144头中有36头(25%)患有皮肤病,最常见的诊断是肉样瘤和浅表性脓皮病;在乌得勒支,有143头驴(16%)患有皮肤病,最常见的诊断是皮肤癣菌;在根特,320头中有14头(4%)患有皮肤病,最常见的诊断是肉样瘤。

结论和临床意义 – 驴皮肤病很常见。年龄、性别和品种易感性,以及最常见的诊断,因地理位置而异。无论因何种原因就诊,临床医生都应该检查皮肤

Resumo

Contexto – Os jumentos são importantes ao redor do mundo como animais de trabalho e ocasionalmente como pets ou fonte de carne. A maioria das descrições de dermatopatias em jumentos são feitas em pequenas séries de casos, livros ou artigos de revisão.

Hipótese/Objetivos – Documentar as dermatopatias e sua prevalência em jumentos e investigar as pre-dileções às enfermidades mais comuns.

Animais – Cento e cinquenta e seis jumentos atendidos em quatro escolas de veterinária.

Métodos e materiais – Um estudo retrospectivo foi realizado a partir da busca em prontuários computadorizados utilizando a palavra-chave “jumento”, na escola de Medicina Veterinária da University of California em Davis (UCD). Pesquisou-se também de maneira similar dados de prontuários de jumentos das escolas de veterinária de Nantes, França; Utrecht, Holanda e Ghent na Bélgica. Os períodos incluídos nas buscas variaram de acordo com a instituição.

Resultados – Na UCD, 83 de 346 (24%) dos jumentos apresentaram dermatopatias registradas nos seus prontuários. Os diagnósticos mais comuns foram hipersensibilidade a picadas de insetos, sarcoide e habronemose. Em Nantes, 36 de 144 (25%) dos animais apresentavam doenças de pele e os diagnósticos mais comuns foram sarcoide e piodermite superficial. Em Utrecht, 23 de 143 (16%) tinham enfermidades cutâneas sendo a dermatofitose o diagnóstico mais comum. Já em Ghent, 14 de 320 (4%) apresentavam dermatopatias e a mais comum foi o sarcoide.

Conclusões e importância clínica – As enfermidades cutâneas são comuns em jumentos. Idade, sexo, predisposição racial e as doenças mais comuns variaram geograficamente. Os clínicos devem incluir a avaliação dermatológica no exame físico independente do motivo da consulta.