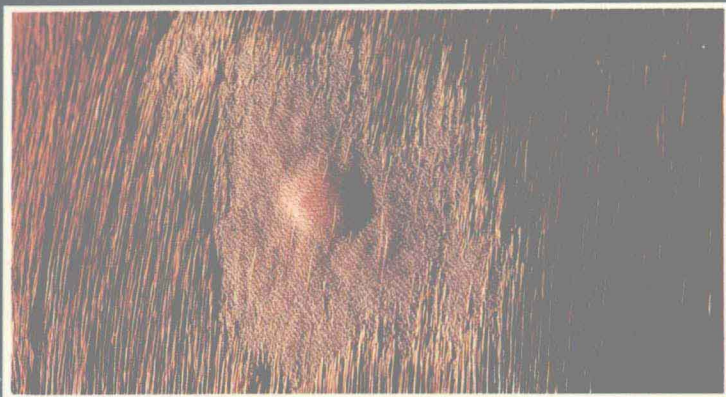

Color Atlas of
EQUINE
DERMATOLOGY

R.R. Pascoe



Color Atlas of
EQUINE DERMATOLOGY

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The C. V. Mosby Company
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Preface

While much has been written and demonstrated in the field of small animal dermatology, there is a limited amount of photographic evidence of skin disease in the horse. Following the publication of Professor D Scott's *Large Animal Dermatology* and his encouragement and willing help in supplying some hard-to-come-by pictures, the production of this atlas has become a reality.

Equine dermatology is based on careful evaluation of the horse's medical history and surroundings, together with a visual appraisal of the presenting signs. Much can be learned from a minute inspection of these three factors.

While the following pictures are meant to expose the reader to a wide range of variations of individual diseases, this is a colour atlas and should be used as a guide to skin conditions of

the horse. When used in conjunction with standard veterinary textbooks on dermatology, it will help the user to gain a fuller appreciation of the conditions under review during diagnosis.

Most of the material has been accumulated as a result of many years' experience in equine practice. I would like to thank the many colleagues, world-wide, who contributed photographs, thus allowing me to show the widest possible range of equine dermatological conditions. To them I am very grateful and hope that this atlas will not only add to everyday knowledge, but encourage others to publish information extending our current knowledge even further, and thereby aid in the alleviation of pain and suffering in our friend, the horse.

Introduction

The structure of this colour atlas follows that adopted in most recent texts on veterinary dermatology, commencing with physical injuries, and progressing through infectious skin disease to a closing section on skin wounds.

The opening section comprises a series of photographs illustrating the various types of primary and secondary lesions, together with descriptions of their causes. This is followed by skin lesions which occur from physical contact with the environment. This may be through injury to the skin or circulation; by the external application of noxious substances, either deliberately or accidentally; or by the ingestion of poisonous substances, either inorganic such as heavy metals, or organic, as when toxic plants are eaten. The section concludes with a review of thermal injuries and the effects of sunburn.

Bacterial skin disease occurs as a result of disturbance of the normal skin flora. This may be caused through physical injury; by biting insects; by the environment, e.g. maceration of the skin by rain leading to outbreaks of *Dermatophilus* infection; or through disruption of internal homeostasis. All of these secondary agents can lead to bacterial skin disease becoming established if the horse is living in contact with a contaminated environment such as soil, harness, or another infected horse.

Fungal disease follows a similar pattern and, in the case of the dermatophytes, with perhaps a greater opportunity to spread rapidly by means of harness and other fomites. Again physical injury to the skin is important in many fungal diseases for the establishment of lesions; for example maceration of the skin, where horses stand for long periods in water, leads to the establishment of such diseases as subcutaneous mycosis, i.e. phythiosis.

The most common causes of skin disease are ectoparasites, with horses displaying irritation, pruritus, self-mutilation, permanent injury to the skin, entry of secondary bacterial infection and myiasis. Also included in this section are such diseases as Equine Insect Hypersensitivity, although it should more properly be considered under immunological disease. On a historical basis it is, however, still related to the insects which trigger the disease.

The section on skin manifestations of viral disease includes a pictorial record of the well-known diseases due to Equine Coital Exanthema virus (EHV-3) and Papilloma virus, as well as those less readily identified as being of viral origin, such as Equine sarcoid, Viral arteritis, and the non-classed pox viruses, all of which have characteristic skin lesions.

The ready diagnosis of neoplastic skin disease in the horse by visual appraisal is complicated by the horse's natural propensity to over-produce granulation tissue, particularly of the lower limbs. The characteristic lesions depicted will aid the clinician in making a differential diagnosis and indicate also the overriding importance of biopsy and tissue sections to gain histopathological confirmation of the provisional diagnosis of both tumours and tumour-like conditions.

The closing sections draw the clinician's attention to those disease conditions involved with disorders of pigmentation, hair density, auto-immune disease and other miscellaneous diseases. The photographs allow the clinician to widen the range of diseases in his repertoire of unusual conditions, leading to better differential diagnosis of this difficult area of skin disease.

The foot section deals with an area of specialised skin—the horse's hoof. It deals with the superficial and deep conditions of hoof, wall, sole and frog, areas often omitted from discussion of classical skin disease.

The final section exhibits various types of skin wounds, their healing ability and their need, or otherwise, to be sutured.

Finally, it is hoped that this pictorial parade of skin disease will widen the clinician's knowledge and in so doing, narrow the range of unidentifiable or unknown conditions which still remain.

To Joy
Patient, tolerant and ever loving
without whose help this atlas could
not have been accomplished

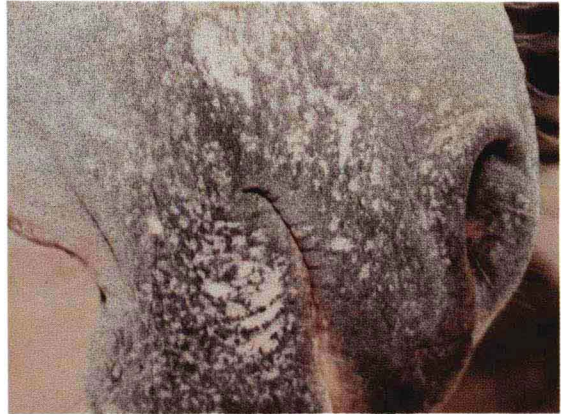
Types of Skin Lesions

Many types of lesions are encountered in skin disorders and an orderly presentation enables the clinician to divide skin lesions into primary and secondary types.

Primary Lesions

These lesions may be regarded as being directly produced by the underlying disease process. They can be masked by secondary infection, by self-mutilation, by biting or by rubbing. Careful examination of the lesions, of the whole animal, and careful enquiry into the past history of the horse, often allows the clinician to obtain the valued background information needed to construct a diagnosis.

1 Macule A circumscribed, flat, impalpable area of colour change level with the skin surface and equal to or smaller than 1 cm in diameter. Examples are increased melanin as in the black spots in the skin coat of some grey horses; decreased melanin as in Arabian fading syndrome, or in vitiligo; and extravasation of blood (purpura). The illustration shows macules due to hypopigmentation of skin around the mouth.



1



2

2 Patch Macules greater than 1 cm are called patches; the depigmentation of the muzzle of this Welsh Mountain pony shows white patches and black macules within patches.

3 Papule A papule is a small, circumscribed, palpable solid mass in the skin, less than 1 cm in diameter, usually raised. Slight erythema may show in non-pigmented skin; heavily pigmented skin may not show any colour change. Papules can be associated with pruritus caused by insect bites such as *Culicoides*, *Stomoxys*, tabanids, biting ants, bees and wasps, or in non-pruritic conditions such as equine eosinophilic granuloma which can manifest as a mixture of papules and nodules. The papule shown here was caused by a biting fly (*Stomoxys* spp.).

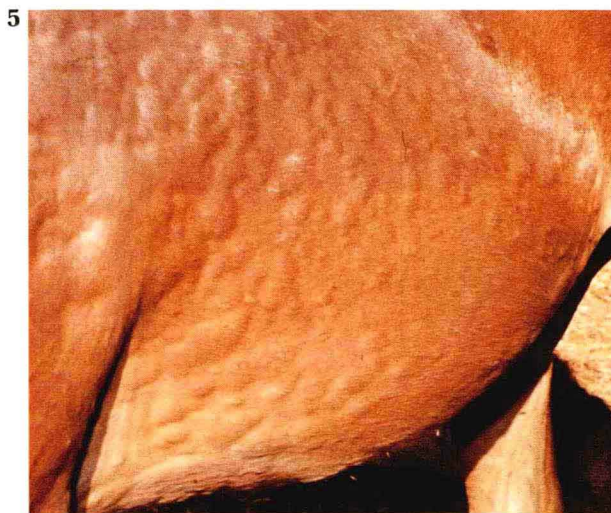


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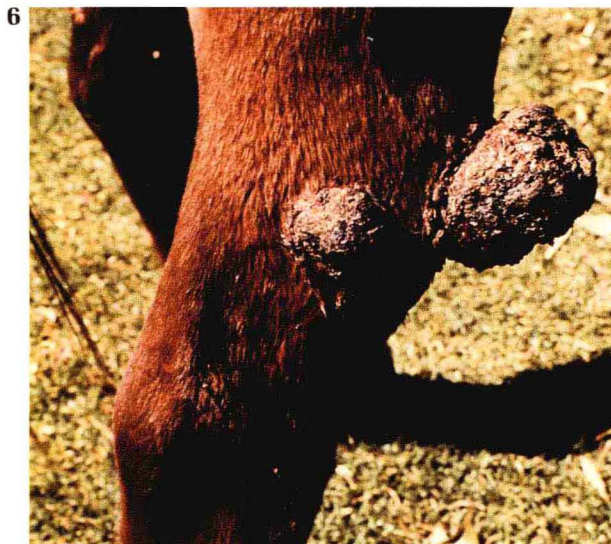
4 Nodule A solid mass greater than 1 cm in diameter, usually raised and rounded. Nodules have the same origins as papules but increased size due to more severe reaction seen in such conditions as neurofibroma, melanoma, equine eosinophilic granuloma, and in some allergies. This is a nodule associated with equine eosinophilic granuloma (older, larger lesions occasionally calcify).

5 Plaque Plaques are solid, elevated, flat-topped swellings greater than 1 cm in diameter. They may be irregular in shape but are often circular. They are usually related to allergic reactions from drugs or feed. This picture shows feed allergy in a yearling.



6 Tumour Tumour is a term used to describe any large mass, usually of neoplastic origin. It can involve any portion of the skin or its appendages, and may be benign or malignant. Shown here, equine fibrosarcoma (sarcoma) of the hind leg.

7 Vesicle Vesicles are usually clear, fluid-filled, sharply delineated, raised lesions up to 1 cm in diameter. Larger lesions are called bullae. Due to the thin layer of skin covering both vesicles and bullae, they often rupture, leaving a reddish eroded surface. Vesicles occur in the early stages of equine coital Exanthema (ECE) lesions in stallions; following the application of vesicant blisters; or in early pemphigus lesions. This is a vesicle on the upper lip of a mare with purpura haemorrhagica.



8 Bullae Large vesicle caused by pemphigus foliaceus.



8

9 Pustule A vesicle filled with pus (inflammatory cells). These lesions are seen in staphylococcal and streptococcal skin infections and later stages of viral infection due to ECE. These are pustules due to ECE on a stallion's penis.



9

Wheals (10 and 11) are sharply circumscribed, elevated lesions which may be rounded or flat topped. They are usually associated with oedema of the area and vary in size from 2-3 mm up to 10-12 cm.



10

10 Wheals caused by food allergy.



11

11 Multiple bilateral wheals, due to severe pruritus of unknown aetiology. The condition responded to corticosteroid therapy.

12



Secondary Lesions

These usually follow self-mutilation, rubbing, incorrect or severe medications, wound discharges and auto-immune disease lesions.

Scale (12-14) is an accumulation of loose fragments of the upper layer of the epidermis. Scales may be white or discoloured by secretion of sebum or blood breakdown products.

12 Scale may be fine and flaky, as seen here in the recovery phase of Queensland itch.

13



13 Thicker and more adherent scale A case of *Chorioptes bovis* on the leg of a Clydesdale mare.

14 Scale discoloured by a heavy sebaceous secretion in the case of urine scalding of the tail from sorghum poisoning.

15 Crust A crust is a dried, solid, adherent accumulation of serum, blood, pus, cutaneous debris (scale). It may or may not be infected. Crusts may follow self-mutilation as in allergies, i.e. *Culicoides* hypersensitivity (Queensland itch), mange, pemphigus, as well as wounds and burns. This tail shows *Culicoides* hypersensitivity with crusts, broken hairs and pruritus.

14



15

