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## URTICARIA (Hives)

### ***What is urticaria?***

Urticaria or 'hives' is a common skin condition in which well-defined raised areas (lumps, wheals or rings) occur in the superficial dermis (upper layer of the skin). Mostly these areas are quite small but in severe cases whole areas such as the face or one or more of the limbs may become swollen. Many cases are short transient and resolve in two or three days but others persist and some resolve only to recur. The lumps are due to edema fluid developing in the skin and this may be confirmed by firm finger pressure, which will leave an indentation.

### ***What causes urticaria?***

Urticaria is caused by an allergic-type (type-1 hypersensitivity) response to an exciting substance (allergen). In most cases of urticaria the exciting cause, (the precise allergen) is never definitely diagnosed. Signs of central skin penetration suggest insect bites or stings. Other allergens include those found in feedstuffs and supplements, locally-applied or systemic (oral or by injection) medications (penicillin is commonly implicated), infectious agents, some parasites, pollens, dusts, fungal and mold spores, soaps, shampoos, biological detergents used to wash sheets and blankets and contact with leathers. Whereas exposure to most of these substances is usually by inhalation or ingestion, in some cases it may be by direct skin contact. Reactions to stress, light, cold and heat have even been suggested. Individual horses react whereas others in the same paddock and under similar management do not. The underlying condition is a release of inflammatory mediators from mast cells in the dermis in response to the allergen. These inflammatory mediators cause local dermal blood vessels to leak and release fluid and protein, which accumulate in the dermis creating the characteristic swellings.



**Allergy causing fluid swelling (urticaria)**

### ***What are the clinical signs of urticaria?***

The typical case of urticaria presents as a series of raised swellings or bumps, usually over the head and neck, but the whole body may be affected. These can range in size from only millimetres up to several centimetres in diameter and in many cases doughnut-shaped rings will be seen. When the head is affected there may be severe swelling, particularly of the eyelids, upper and lower lips and muzzle, often to the extent that the eyelids close. Where the limbs are affected there may be swelling from the knees and/or hocks down. In severely swollen cases the skin will ooze serum or tissue fluid and this results in crusting, particularly on the face and limbs. Affected horses may or may not be itchy (pruritic) but if itchiness does occur then the lesions may become complicated by self-inflicted trauma (rubbing/scratching), resulting in contusions and scab formation and sometimes secondary infection.

### ***How is urticaria diagnosed?***

The diagnosis is based on clinical signs and a history of possible exposure to some exciting cause, e.g. a change of feed, new pasture, drug administration, topical treatment with a shampoo or exposure to a biological detergent, if there is such a history. In most cases the precise cause is not proven. If a dietary factor is suspected, an exclusion diet such as coarse grass hay and water should be fed until the symptoms have subsided, possibly for up to three weeks. Individual dietary components can then be re-introduced to see if the urticaria is triggered again. This is a prolonged process and seldom results in discovery of the triggering agent. Specialised blood test (ELISA and RAST), which will test for antibodies against some groups of potential allergens, can be performed. These tests have not been fully validated for horses and results are not always helpful as the tests are often too sensitive, often implicating whole groups of substances.

### ***How is urticaria treated?***

For acute cases (seen within 24 hours of development of first signs), a single injection of short-acting corticosteroids will usually remove the skin lumps and resolve any itchiness. In some cases, no further problems occur but in others the condition recurs. The real aim in treating urticaria is removal of the cause, but as in most cases the cause is never known or only established weeks later, this aim is very difficult to achieve. The most practical approach is to change paddocks or bedding as an immediate managerial policy. Any source of potential contact allergen and non-essential drugs and supplements should be withdrawn and the horse put on to an exclusion diet. If a change in bedding appears implicated the horse should be put back onto its original bedding to confirm the response so that this can be permanently avoided thereafter. Even when the suspected agent has been removed, symptoms may persist.

In such cases, long term treatment for persistent (chronic) or recurrent urticaria can be achieved relatively safely by the administration of the corticosteroid prednisolone by mouth. The initial dose needs to be quite high but it is then gradually reduced until the horse is on every other day treatment. If exposure to the causative agent is temporary, the condition will resolve and not recur once the treatment has been withdrawn. Use of topical shampoos designed to reduce inflammation and irritation of the skin may help, particularly in cases where there has been oozing of fluid or secondary skin damage. Hyposensitisation therapy can be attempted in recurrent or persistent cases. Skin injection tests are performed in an attempt to determine which agents cause the urticaria. If meaningful results are obtained, tiny doses of the presumed allergen are then injected periodically in an attempt to reduce the horse's reaction to them. This treatment is not widely available and experience suggests that results are often unreliable.

High dose or long-term treatment with corticosteroids can cause laminitis in some horses and ponies. This risk must be born in mind when considering treatment and corticosteroid therapy is best avoided in those individuals who have a previous history of laminitis. As always, the needs and benefits must be balanced against the risks.

### ***How may urticaria be prevented?***

Unless the allergen has been established, prevention is not possible. If it is known then exposure should be permanently avoided thereafter. Antihistamine therapy can be attempted prior to unavoidable exposure but responses are not always satisfactory. Antihistamine therapy for horses already showing signs of allergy is ineffectual.

Changing feed, bedding, shampoo and washing detergent can help in some cases but many are very much more complicated. Fortunately, most horses resolve without the cause ever being discovered.

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