

TREATMENT, CONTROL, AND PREVENTION

In most cases, treatment or removal of warts is not necessary, as they tend to regress spontaneously. If warts are located in areas where they interfere with normal function, or if they become infected, removal may be an option under the recommendation and supervision of a registered Veterinary Surgeon.

If warts are interfered with, warts elsewhere on the body sometimes go away, due to viral material escaping into the bloodstream and stimulating active immunity. This has been the basis behind the development and use of papilloma virus vaccines in other countries. The efficacy of vaccination, however, is highly variable between animals, and as a result, many vaccines were later withdrawn from their respective markets.

The key to control is to examine calves early and often for warts. Affected animals should be isolated as best as possible. Disinfection of equipment which may have been used by/on an affected animal should always take place before use on other, unexposed animals.

Additionally, when carrying out invasive procedures such as ear tagging, tattooing, or vaccination, instruments/needles should be disinfected or changed between animals. It may be a good idea to maintain two sets of instruments and alternate use between them, thereby providing adequate time for disinfectants to inactivate the virus.

Blood, tissue and other debris should first be removed before immersing equipment in disinfectant. Always wear gloves when coming into contact with animals and their bodily fluids, as well as when using harsh substances such as disinfectants.

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PAPILLOMA VIRUS-INDUCED WARTS IN CATTLE



Image courtesy of:

<http://www.daff.qld.gov.au/animal-industries/animal-health-and-diseases/a-z-list/warts-on-cattle>

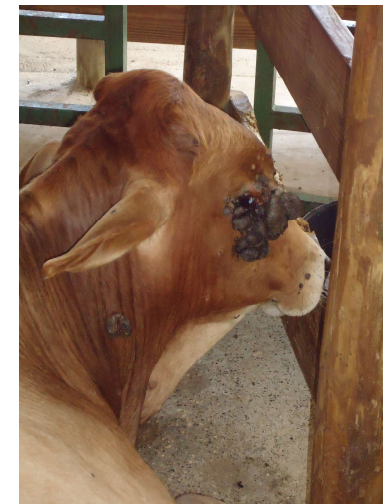


Image courtesy of: Dr. S. Dorman, DOA

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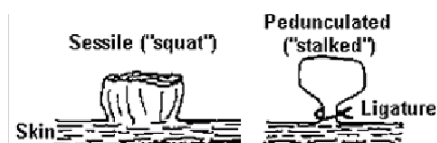
INTRODUCTION AND CAUSE

Papillomas or warts are occasionally diagnosed in cattle in The Cayman Islands. Bovine papillomas are caused by a hardy, infectious, and highly contagious papilloma virus which is specific to cattle. There are at least six identified strains of the bovine papilloma virus (BPV), and each strain has an affinity for specific areas of the body.

CLINICAL FINDINGS

Warts appear as raised, hairless lesions, and vary in size from a pea to a tennis ball. The four most common types of warts are:

- Sessile/Squat
- Pedunculated/stalked
- Flat
- Tags



Common warts on the skin



Common warts on the teats

Image courtesy of:

<http://www.daff.qld.gov.au/animal-industries/animal-health-and-diseases/a-z-list/warts-on-cattle>

The head, neck, and shoulder regions are most commonly affected; however, warts can also be seen on the nose, udder/teats, and penis.

Warts on the penis of bulls can lead to the development of warts in exposed females. At slaughter, warts may be seen along the digestive tract or bladder. Warts are usually more of an appearance problem than a physical problem. Most of the strains result in mild infection, and cause minor problems to affected animals.

Younger animals tend to be affected. As cattle mature, they develop an immune response and as a result the warts regress, leaving little or no scarring. It is, therefore, uncommon to find cattle over the age of two (2) years with papillomas/warts.

PATHOGENESIS

Papillomavirus gains entry to the body via a break in the skin (e.g. from scratching on barbed-wire fences or prickly bushes such as logwood). Viral spread usually takes place by direct contact between an infected animal and a non-infected (naïve) animal. Not all animals carrying the virus will have warts; transmission can take place from an inapparent carrier to susceptible animals.

The virus can also be spread indirectly by lodging on feeders, water troughs, pen walls, and other inanimate objects contaminated with viral material.

Insects, such as mosquitoes, flies, and ticks may also play a role in the transmission of viral material between animals.

Warts begin to appear approximately three (3) to eight (8) weeks after infection, and can last anywhere from six (6) to twelve (12) months and then disappear without treatment. The majority of the viral material tends to be isolated within the warts themselves; very little of it can be found circulating in the animal's bloodstream.

The animal's immune system, therefore, does not get exposed to the virus very easily/often, and as a result is poorly stimulated. This helps to explain why affected animals take an extended period of time to develop immunity to the virus, hence resulting in delayed regression of the warts.



Papilloma warts on the udder of a cow

Image courtesy of:

<http://homepage.usask.ca/~vim458/virology/studpages2007/Kahuna/treatment.html>