AGRI MAGAZINE
(International E-Magazine for Agricultural Articles)
Volume: 03, Issue: 10 (October, 2026)
Available online at http://www.agrimagazine.in
©Agri Magazine, ISSN: 3048-8656

# Beyond the Lump: Unusual Faces of Caseous Lymphadenitis in Goats

*Sumedh Dongre[1], Shalini Gangwar[2], Wadjkar Prasad[2] and Kale Chandrakant Dinkar[3]
[1]Assistant Professor, Mahatma Gandhi Veterinary College, Bharatpur, Raj., India
[2]Ph.D. Scholar, Indian Veterinary Research Institute, Izatnagar, Bareilly, UP, India
[3]Ph.D. Scholar, Nagpur Veterinary College, Nagpur, Maharashtra, India
*Corresponding Author's email: sumedhdongare307@gmail.com

Ask any goat keeper about caseous lymphadenitis and they'll describe the same thing: a hard, painless lump under the jaw that eventually bursts and oozes thick, cheesy pus. That textbook picture is accurate most of the time. But every so often, this common bacterial disease turns up somewhere it has no business being: inside a joint, behind an eye, in the brain, or quietly wasting an animal from within without a single visible lump. These unusual cases are why CLA remains a trap for the unwary.

## The Bacterium Behind the Bump

Caseous lymphadenitis (CLA, often just called 'CL' or 'cheesy gland') is caused by Corynebacterium pseudotuberculosis, a tough, soil- and skin-surviving bacterium that can persist on bedding for months and in soil for the better part of a year. It enters through small cuts or abrasions the kind of everyday scrapes goats pick up from fencing, feeders, shearing, or fighting and hitches a ride in the lymphatic system before settling in the nearest lymph node, where it triggers the formation of a thick-walled abscess. The incubation period is notably long, often one to three months, so an animal can look perfectly healthy for weeks after exposure before a lump ever appears. Cut one open and you'll typically find pale green-to-yellow pus arranged in concentric, onion-like layers a signature almost as recognizable as the smell. In the vast majority of goats, that's the whole story: one or more external abscesses at the submandibular, parotid, prescapular, or prefemoral lymph nodes, treated by lancing, flushing, and strict hygiene to stop the pus from contaminating the herd. Once an abscess bursts on its own, it releases millions of bacteria per gram of pus onto bedding, pasture, and equipment, which is exactly how CLA spreads so efficiently through a flock mostly through direct contact and a contaminated environment rather than through the air. But C. pseudotuberculosis doesn't always stay put.

## How It Spreads Through a Herd

Because the organism survives so well outside a host, almost anything a goat touches can become a transmission route: shared feed troughs, fence posts used for scratching, shearing blades, ear-tagging equipment, and even the hands and clothing of handlers moving between animals. Kids can also pick up the infection while nursing if a doe has an abscess on or near the udder. This environmental hardiness is precisely why a single infected animal introduced into a clean herd through purchase, a show, or a borrowed buck can seed an outbreak that takes years to fully clear, and why disease incidence climbs steadily with an animal's age as lifetime exposure accumulates.

## When CLA Goes Somewhere Else

**The silent internal form:** Textbooks describe a second, internal (visceral) form of CLA in which abscesses form in the lungs, liver, kidneys, or mesenteric lymph nodes rather than

under the skin. Slaughterhouse surveys have repeatedly turned up mesenteric lymph nodes packed with multiple abscesses and spleens showing the same onion-skin pattern seen externally all in goats that, while alive, showed no obvious lump at all. Interestingly, several surveys report that superficial disease tends to dominate in goats while the internal form is proportionally more common in sheep, but goats are far from immune to this hidden presentation. Left unrecognized, internal CLA drives the slow-wasting picture veterinarians call 'fading goat syndrome' chronic weight loss, poor coat, and intermittent fever in an animal with no external abscess to blame.

**Abscesses in genuinely odd places:** Rarer still are reports of C. pseudotuberculosis abscesses turning up in the heart, testes, scrotum, uterus, joints, brain, or spinal cord sites well outside the usual lymph-node map. A joint abscess can look exactly like infectious arthritis; a brain or spinal lesion can produce neurological signs incoordination, head tilt, even seizures that point diagnostic suspicion everywhere except toward a 'skin disease.' Experimental work using oral inoculation in a mouse model even recovered the bacterium from brain tissue more often than from lymph nodes, underscoring how readily this organism can travel well beyond its textbook territory once it escapes containment.

**Farms and species you wouldn't expect:** CLA is considered a small-ruminant disease, yet outbreaks occasionally surface where nobody is looking for it. A 2020s case series described an outbreak in a 500-cow dairy herd in Portugal cattle developing head-region lymph node swelling, weight loss, and reduced milk production, almost certainly picked up from nearby infected sheep or goats and poor biosecurity. Wildlife isn't spared either: a roe deer found dead in the mountains of Italy was confirmed, on necropsy, to have generalized CLA-type lymphadenopathy and lung abscesses caused by the same bacterium, marking a first record of the disease in that species and country. Cases like these are a reminder that C. pseudotuberculosis doesn't respect the tidy species boundaries drawn in veterinary textbooks.

**Mimics and mix-ups:** Because so many pyogenic bacteria not just C. pseudotuberculosis can cause abscesses in goats, unusual or atypical CLA cases are also a diagnostic minefield. Case reports describe abscesses initially mistaken for other conditions until pus culture and molecular testing (PCR or agar gel precipitation) confirmed the true cause. Mixed infections add to the confusion: wildlife studies have documented C. pseudotuberculosis turning up alongside non-tuberculous mycobacteria in lesions that looked, on first glance, like tuberculosis.

## Diagnosing the Odd Case

A textbook external abscess is usually diagnosed on sight and confirmed by culturing the pus. Unusual presentations are a different challenge entirely. A goat with a joint swelling, a neurological deficit, or unexplained chronic weight loss needs imaging (ultrasound or radiographs), blood work, and often exploratory aspiration before CLA even makes the list of suspects. Laboratory confirmation typically relies on bacterial culture of aspirated material, PCR to detect the organism's DNA directly, or serological tests such as the agar gel precipitation test (AGPT) and ELISA, which detect antibodies against the bacterium's toxin and can flag internal cases in animals with no external lesion to sample. Because several other pyogenic bacteria cause superficially similar abscesses in small ruminants, this laboratory step is what separates a confirmed unusual CLA case from a simple misdiagnosis.

Worth a brief mention: this isn't strictly an animal-only story. C. pseudotuberculosis can occasionally cause lymphadenitis in people handling infected animals without precautions a handful of cases in farmers, shearers, and abattoir workers are on record. It's an uncommon, generally mild zoonotic risk, but a reason to glove up when lancing any suspicious abscess.

## Prevention and Control on the Farm

Because there is no cure that clears an infected animal for life, herd control focuses on breaking transmission rather than treating cases one by one. Core measures include isolating or culling animals with recurrent or internal disease, disinfecting shearing and tagging tools between animals, and quarantining new arrivals before they join an established herd.

Vaccines exist and help reduce abscess formation and shedding in some operations, though they rarely eliminate the organism from a herd that already carries it. Most successful programs combine several of these measures over multiple years, since one missed source of contamination is often enough to keep the disease circulating.

## Why These Odd Cases Matter

- They explain otherwise unexplained deaths or chronic wasting in goats with no visible external abscess.
- They highlight why culture or PCR confirmation matters not every abscess is CLA, and not every CLA case looks like the textbook picture.
- They're a biosecurity warning: internal cases can shed the organism and seed new outbreaks just as effectively as a burst external abscess.
- They show why herd-level control programs (isolation, culling of severely affected animals, vaccination, hygiene at shearing/handling) remain essential even when visible disease looks well controlled.

## The Takeaway

Caseous lymphadenitis earns its reputation as a manageable, if stubborn, disease of superficial lymph nodes but its unusual cases are a good reminder that Corynebacterium pseudotuberculosis is an opportunist, not a creature of habit. Whether it shows up in a spinal abscess, a dairy cow's lymph node, or a wild deer carcass, the pattern is the same: a hardy organism finding new routes into old vulnerabilities. For veterinarians and goat keepers alike, that means a lump under the jaw should never be the only thing on the differential list.