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# Tongue Surgery of a Dairy Cow Showing a Consistent Intersucking Behavior

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**Abstract :** On a dairy farm, a Holstein cow had consistently shown an intersucking behavior within the milking herd. It has been considered as one of several behavioral disorders primarily coming from feeding management failure during weaning period. Due to their behavior, injured teats of other milking cows could decrease milk production. Through tongue surgery, by producing a convex shape of the dorsum of the tongue after suturing the excised ventral region, the intersucking behavior was forcefully corrected and disappeared thereafter within the dairy herd without any complications.

***Key words*** **:** cow, intersucking, tongue, surgery

## Introduction

The prehensile tongue of a cow connected to the floor of the mouth is important in chewing, sucking and swallowing milk. Sometimes, the vitally important tongues of calves, heifers and cows make problems. Intersucking and cross-sucking, similar types of behavioral disorders lead to mastitis, udder damage, milk loss, and culling of breeding animals in dairy farms and exhibit sucking the tail, ear, mouth, scrotum, prepuce, udder area or navel of other calves(1,5). Therefore, the calves, heifers and cows that have behavioral problems in dairy farms could cause considerable economic losses in reduced milk yield(1,4,5,8). In this study, we reported a surgical correction of an intersucking cow that had consistently shown abnormal behavior in the milking herd.

## Case

The cow was restrained in lateral recumbency by an ambulatory truck particularly manufactured for cattle surgery and anesthetized by intravenous administration of xylazine HCL 20 mg (Rompun®, Bayer Korea). Using a rubber band, pressure was circumferentially applied to the base of the tongue as close to the frenulum as possible(Fig 1A). The tip of the tongue was pulled out of mouth with towels and forceps until the ventral lingual surface was exposed. Lidocaine was injected into the lingual submucosa of operative area(Fig 1B). The incision elliptically started from the tip of the frenulum and processed remaining a few centimeters to the edge of tongue(Fig 1C). A sufficient amount of mucosa was excised to produce a convex shape of the tongue's dorsum after suturing(Fig 1D). The incision edges were juxtaposed with single interrupted sutures of catgut (No. 4). The sutures contained the mucosa as well as some muscle to prevent the sutured region from tearing after surgery(Fig 1E and 1F). The cow was allowed to eat immediately following surgery (Fig 2).

## Discussion

The causes of intersucking are not clear, and so far all available treatments merely treated the symptoms of this behavioral problem(2,3). Calves are commonly separated with their mothers right after feeding colostrums in dairy farms. In addition, due to labor-consuming acts like bottle-fed feeding, caretakers do not want to feed with it. Therefore, young calves were bucket-fed until they could transit to solid food. These bottle-fed calves reach weaning stage at a younger age than bucket-fed calves due to faster growth. Especially the bucket-fed calves reared in individual pens could have bad behavior of cross-sucking pen mates and continue their behavior even after entering into a milking herd. Calves with high cross-sucking activity before weaning were likely to keep their behavior after weaning(3). Intersucking in cows is largely derived from intersucking in heifers(2). This means that intersucking, a problematic behavior, could continue throughout a cow's life if it is not corrected. As treatments of cross-sucking in group housed dairy or veal calves, separation, mechanical devices and artificial teat feeding have been used to sever their bad habit after weaning(3-5). Management factors like the milk feeding method, housing of calves, and the feeding and housing of heifers and cows must be considered in advance(5,8). Once intersucking

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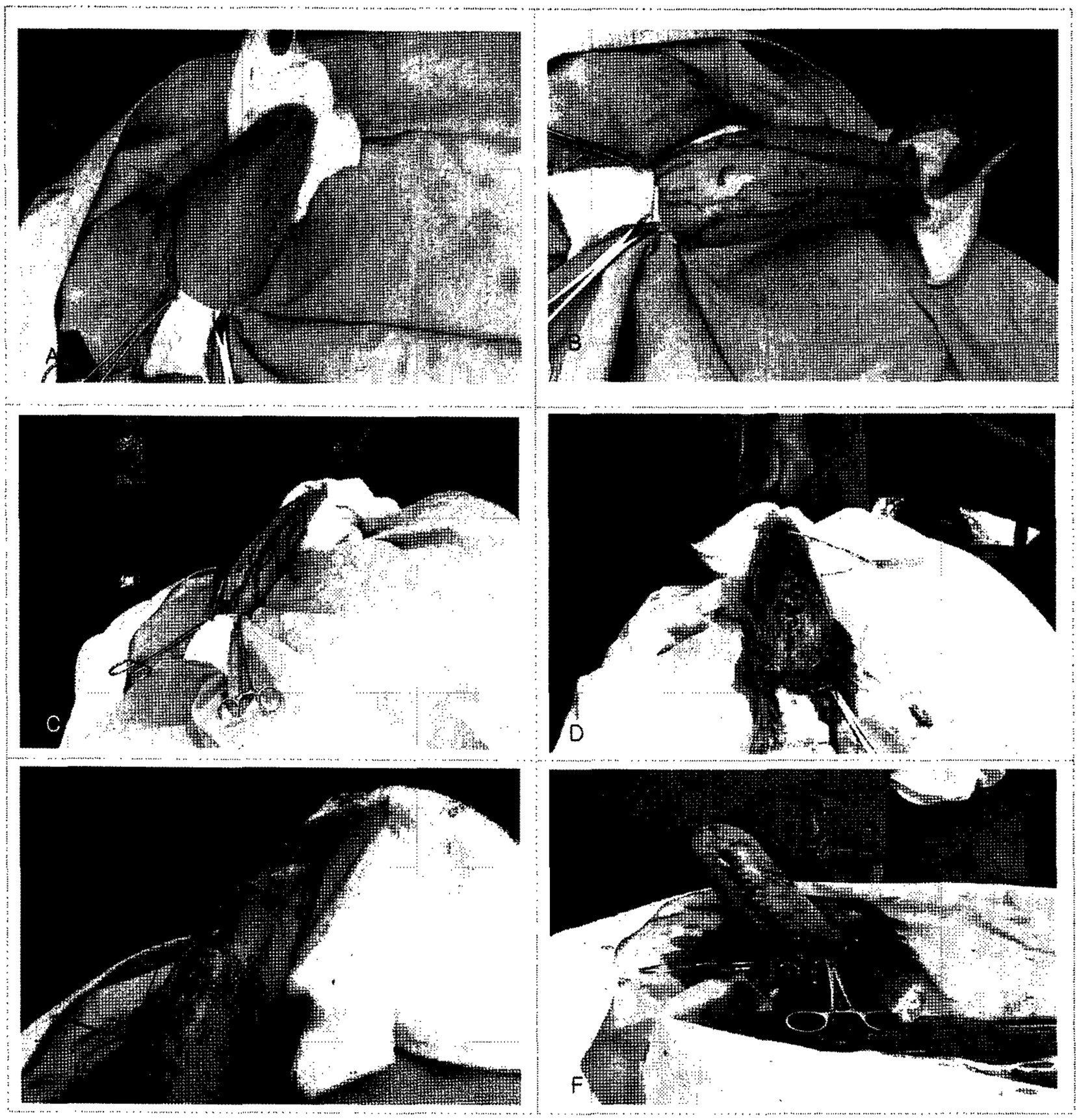


**Fig 1.** Surgical procedures. The tongue was pulled out using autoclaved towels and forceps (A, B). Incision was conducted from the frenulum with the submucosa of ventral surface being excised (C, D). After interrupted sutures (E), the tongue was prevented from rolling inward (F).

**Fig 2.** The cow's tongue was protruding immediately after the surgical operation.

occurs on a farm and re-grouping or mechanical devices such as weaning rings, noseflap-halters and cradles are proven unbeneficial, surgical treatment is preferable. Since the herd could become discontented and restless due to the painful pressure from these devices, and the behavior relapse rate is high ranging from 9% to 55%, and feeding and drinking may be decreased, tongue surgery is the best way to correct intersucking behavior. The surgery narrowed the width of the tongue so that the cow can not roll its tongue to grip the teats of other cows. Some complications after surgery have been reported, for instance infections, decreased feeding and milking, and even culling (6,7). However, the cow in our study was allowed to eat right after surgery, and neither impaired feeding nor decreased milk yield was found.

## Conclusion

Tongue surgery may be the best choice for stopping nutritive or non-nutritive intersucking of cows and heifers as well as self-sucking. This surgery is especially necessary when altering the cow management system and mechanical devices do not have the desired behavior-altering effect.

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# 지속적인 인터서킹 행동장애를 보이는 경산우의 혀수술

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**요 약** : 한 유우목장의 착유우군내에서 인터서킹의 행동장애를 지속적으로 보이는 홀스타인 경산우가 있었다. 이것은 대부분 이유 시 잘못된 급여관리로 인해 발생하는 행동 장애 중 하나로 생각되어져왔다. 이러한 행동 장애는 다른 착유우의 유두에 물리적인 손상을 주어 우유 생산을 떨어뜨릴 수가 있다. 혀 복면의 절개된 부분을 봉합해 배면을 둥글게 해주는 혀수술을 통해 외과적으로 교정하였고 이후 수술로 인한 합병증없이 착유우군내에서 인터서킹의 행동장애를 보이지 않았다.

**주요어** : 경산우, 인터서킹, 혀, 수술