Treatment of ruminal indigestion according to popular belief in Sweden

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Summary: For hundreds of years, the Swedish peasantry were able to cure diseases of animals by using various popular remedies. In this context, ruminal indigestion is a disease of special interest to veterinary history. Long before research had demonstrated the importance for rumination of the ruminal microflora and microfauna, the Swedish peasantry used to administer living ruminal microorganisms from a healthy cow or sheep to an animal suffering from ruminal indigestion. This was performed by giving the diseased animal a cud obtained from the healthy animal. According to some beliefs, the cud was a living being. Those cherishing this belief therefore thought it wise to take only part of the cud so as not to harm the involuntary donor.

Another common treatment of ruminal indigestion was based on the thought that the cow had lost the ability to chew. The authors describe the frequent use of chewing of various substances as a remedy.

In the available literature, some forty different remedies have been described either alone or used in combination with the above principles.

KEYWORDS: Popular medicine - Ruminal indigestion - Sweden - Treatment.

INTRODUCTION

In times gone by, the everyday life of the Swedish peasantry was filled with a wealth of myths, legends and tales of magical events, which were told and retold from one generation to the next. In this way, both the tales and the witchcraft – as well as useful knowledge – were passed on.

As a consequence of the witch trials conducted in Sweden during the seventeenth century, tales and knowledge of this kind were subject to much criticism. Old popular beliefs were interpreted as being the work of the Devil. Men and women who had always lent a hand in protecting cattle from disease and thievish milking were now branded as ‘helpers of the Evil One’. From their pulpits, priests warned the peasantry to beware of the Devil and his works. Making use of the arts and knowledge of the ‘black books’ became a dangerous enterprise.

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Much of the knowledge based on the experience of earlier generations is still alive among the peasantry. This is particularly true for the prevention and curing of livestock disease, even if dubious methods such as incantations, magic formulas and spells which had been used for centuries are no longer employed.

During the eighteenth century and the age of Enlightenment, the State authorities realised that there was a need to improve and expand the medical profession, for the healing of sick animals *inter alia*. The latter need was further accentuated by cattle plague which was then raging with undiminished severity. On the initiative of C. von Linné, his pupil P. Hernquist was sent to France to study the veterinary art. Hernquist established a veterinary school in Skara in 1775, and subsequently a veterinary service was formed in Sweden. Alongside the new methods for treatment introduced by the veterinarians, the old popular medicine survived, with some of the traditional methods being used even by the trained veterinarians.

**RUMINAL INDIGESTION IN SWEDISH FOLKLORE**

In Sweden, ruminal indigestion is a common disease of cattle which has been known for centuries. Popular medicine describes this disease under many different names, the majority of which are connected with the most conspicuous sign, the loss of rumination. The causes of ruminal indigestion are manifold but the most common cause in past centuries was probably the feeding of unsuitable hay, e.g. deficient in minerals or vitamins.

The peasantry were most probably unaware of these deficiencies, but nevertheless often acted in a way which is more or less correct, according to present day knowledge.

An account is given below of some of the remedies listed in the collections of folklore of the Nordic Museum in Stockholm, Sweden (1), as well as in early literature describing animal diseases and their treatment.

The extent and frequency of the use of various remedies for ruminal indigestion are shown in Figure 1.

A total of 44 means of treatment was reported by 75 contributors. In addition, the practice of chewing various substances was reported by 20 contributors. The material to be chewed generally consisted of bread, dough, or hay with the addition of some of the other substances mentioned in Figure 1.

From Värmland (west Sweden) comes a tale of an old woman ‘who was known for some funny pranks’: she took hay grown in the fields of the Manor and gave this to sick cows, which then recovered. Another well-reputed cure, according to popular belief, was to put a key onto the turfed roof of the cowshed and allow a man or woman to ‘graze’ the grass which had grown within the loop of the key; this grass was then given to the diseased cow. A more common way to cure ruminal indigestion was probably based on the old principle of curing like with like. A cow which had stopped ruminating was considered to have lost not only its cud but also the ability to chew. A custom widely used in curing this disability was to chew a piece of rye bread and then present this to the cow (for pedagogic reasons?). Apparently, the chewing was often performed according to a fixed ritual. In some parishes of Småland (south Sweden) two men were required to meet one another while passing through three doors and chewing fodder or bread. As they met, one of them asked, ‘What are you chewing?’ The other then answered, ‘I am
chewing a cud for a cow.' They were supposed to pass through the doors, turn, and repeat this scene three times. Each time they met, they were to exchange the substances they were chewing and pronounce the same formula. Such a complicated ritual, however, was not always necessary. One man is said to have remained seated in the cowshed for nights on end, chewing for his sick cows. Other people were known to be outstandingly good at chewing – mostly women. In some regions, the jaw was supposed to rotate in the opposite direction to that of the cow.
A third custom used in the curing of ruminal indigestion, which is interesting from the point of view of modern veterinary medicine, is based on the belief that the cud was a living creature which had died in the diseased animal. The trick was to procure a new living cud from a healthy cow or sheep. In some regions, one was not supposed to take the whole cud but only half of it; otherwise the donor animal would be deprived of something vital to its own well-being. Even this remedy sometimes involved a degree of ritual, such as taking the cud from a cow only when it was ruminating after sunset.

**THE SCIENTIFIC APPROACH**

This treatment was certainly often effective, although only now – after centuries of use – has a scientific explanation been provided.

E.G. Forssell (quoted in 10) encouraged M. Koffman, of the State Veterinary Medical Institute in Stockholm, to investigate the infusorian fauna of wasting cows (10). Koffman states that data on the presence of protozoa in herbivores were first met with in 1843 in a work by Gruby and Delafond (10). However, the physiological importance of the protozoa was not observed until the 1930s, due partly to the work of Koffman.

In the middle of the twentieth century, a great number of workers demonstrated the importance of infusoria, fungi and bacteria in the physiology of rumination. Later, H. Hedström and S. Hoflund (2, 3, 7, 8, 9) among others, working in the Royal Veterinary College and the State Veterinary Medical Institute in Stockholm, demonstrated changes of the ruminal microfauna and microflora in ruminal indigestion. Together with Quin (11), Hedström and Hoflund stressed the importance of the ruminal fauna and flora for various disease conditions of ruminants.

These works have provided a very satisfactory explanation for the effects of treating cows with ruminal indigestion by feeding them a cud from a healthy ruminant, a popular practice for centuries. This practice introduced fresh, living microflora while, at the same time, the feed ration was often improved by providing better quality hay.

**FOLKLOCIC IDEAS OVER THE CENTURIES**

The material from the folklore collections of the Nordic Museum (1) does not provide conclusive evidence of the number of centuries for which this remedy was in use, nor is any such information to be derived from the other libraries consulted by the authors, namely: the Royal Library (the National Library of Sweden), Stockholm; the Library of the Royal Swedish Academy of Agriculture and Forestry, Stockholm; the Library of the Swedish University of Agricultural Sciences, Uppsala and Skara (including the collection of old books at the Skara Veterinary Institute). The earliest presentation found in print which mentions this therapy is by Hjortberg (6) in 1776: 'It is common practice, even in the countryside, to take the fodder out of the mouth of a sheep or a goat to give it to an animal which does not ruminate.'

However, Hjortberg initially mentions another method which does not deserve the same merit as being physiologically correct. 'The creature is carved in its ear to cause some bleeding [perhaps in accordance with the prevailing principles of humoral pathology? (authors' remark)] and then one rubs its tongue and palate with salt and vinegar.' The treatment is then completed by giving tepid water containing two or three handfuls of
rye bran, followed by half a quarter (1 quarter = 0.33 l) of aqua vitae with half an ounce (15 g) of coarsely ground pepper, whereupon the tongue is again rubbed with salt and vinegar.

Hernquist (4), in his translation (from French into Swedish) of Le Guide du Fermier, first published in England, added a footnote containing his own comments. In one of these, Hernquist stated that 'the shepherds in Switzerland are said to put their hands down into the stomach, to drag the fodder up again and re-arouse the rumination. This would be possible solely when the fodder had stuck in the throat. Usually, in the countryside, those who groom the creatures otherwise take the fodder – which has been brought up from the stomach of the healthy creature to be ruminated out of the mouth – and put this in the mouth of the diseased animal, thus to arouse the appetite and rumination, which is often effective' (4).

However, in the text of the translation itself, nothing is said with regard to the cud. It is recommended that the tail be fixed to the body and the animal made to drink a quarter of the best white wine, stirred with the same quantity of olive oil. Thereafter, the animal shall be made to run as fast as possible for 2.5 kilometres (sic); the animal shall then be allowed to rest and be brought into the stable.

As mentioned above, the cud therapy has been used for several centuries. However, it would appear that it was not used to the same extent during the early part of the twentieth century. An explanation for this might be found in the devastating cattle diseases of tuberculosis and infectious abortion (brucellosis). In view of the risks of disease transmission, veterinarians used to warn against the use of the cuds. Similarly, Hoflund and Hedström (3) mention the risks connected with the use of ruminal fluid from slaughtered cattle.

On the basis of the favourable experience among the peasantry using the cud therapy, and the works of Hoflund and Hedström, the pharmaceutical industry has developed drugs containing not only vitamins, trace elements, glucose and yeast, but also dried rumen content (Extractum ruminis siccum). As recently as 1986, Wass et al. (12) recommended administering rumen content to cows with ruminal indigestion.

Heurgren (5), who has provided some of the present information, also describes some more or less dabbling methods, such as carving in the ear of the cow, or feeding goose droppings or fat (the latter is supposed to work by lubricating the omasum). Other means worth mentioning in this connection include the feeding of bituminous limestone, hops, gunpowder, coffee, tobacco, tar, aspen leaves, frogs, spiders and mountain currant (Ribes alpinum).

In the treatment of ruminal indigestion, popular medicine does not seem to have resorted to spells and conjurations to the same extent as was common where other cattle diseases were concerned. However, Heurgren states that: 'A good means is also to give the sick cow the water that has been used for washing a woman dead at childbirth, or some of the earth from a grave in which an unchristened child was buried. The best choice is some scrapings from a silver spoon, but this is not available to every man' (5).

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Résumé : Les paysans suédois ont, pendant des siècles, employé des remèdes traditionnels pour soigner les animaux malades. L'indigestion du rumen revêt à cet égard un intérêt particulier pour l'histoire vétérinaire. Bien avant que la recherche n'ait démontré l'importance de la microflore et de la microfaune du rumen, les paysans suédois savaient administrer des micro-organismes vivants, obtenus à partir d'une vache ou d'une brebis saines. Dans ce but ils faisaient avaler au sujet malade le bol de régurgitation d'un animal en bonne santé. Selon certaines croyances, ce bol était vivant. Les adeptes de cette méthode considéraient cependant qu'il valait mieux ne prélever qu'une partie du bol pour ne pas nuire au donneur involontaire.

Une autre thérapeutique, également en usage pour soigner l'indigestion du rumen, reposait sur l'idée que l'animal avait perdu la faculté de ruminer. Les auteurs décrivent les différentes substances qui étaient données à mâcher à titre de remède.

La littérature fait état d'une quarantaine de médications différentes utilisées seules ou en association avec les principes décrits ici.


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Resumen: Los campesinos suecos usaron durante siglos métodos tradicionales para curar a los animales enfermos. En este sentido, es muy interesante para la historia veterinaria el tratamiento de la indigestión del rumen. Mucho antes de que la investigación científica hubiera demostrado la importancia de la microfauna y la microflora del rumen, los campesinos suecos sabían administrar al animal enfermo microorganismos vivos obtenidos de vacas u ovejas sanas, haciéndole tragar, por ejemplo, el bolo de regurgitación del animal sano. Según ciertas creencias, este bolo estaba vivo. Quienes practicaban el método consideraban que convenía tomar sólo un parte del bolo para evitar perjudicar al donante involuntario.

Otra terapéutica de la indigestión del rumen se basaba en la creencia de que el animal enfermo había perdido la capacidad de ruminar. Los autores describen las distintas sustancias que se le daban a mascar, como remedios.
La literatura sobre el tema menciona unas cuarenta medicaciones distintas que se usaban solas o asociadas con los principios que aquí se describen.


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REFERENCES

1. ANON. – Excerpts from original documents in the Folkloric Collections of the Nordic Museum, Stockholm.


