Journal articles on Castration, Glanders and Botts, by Samuel Gason Going published in veterinary journals, 1872 and 1876

- Going SG. Extensive visceral disease succeeding on castration, *The Veterinarian*, 45(529):21-23 1872 Jan. Available from: *HathiTrust Digital Library*, https://hdl.handle.net/2027/uiuo.ark:/13960/t9q31df00

- Going SG. Glanders in the United States Cavalry. *Veterinary Journal and Annals of Comparative Pathology*. 3:87-93, 1876 Aug. Available from: *HathiTrust Digital Library*, https://hdl.handle.net/2027/uc1.31175032561154

- Going SG. "Bots" (*Oestrus equi*) obstructing the duodenum of the horse. *Veterinary Journal and Annals of Comparative Pathology.* 3:15-17, 1876 Jul. Available from: *HathiTrust Digital Library*, https://hdl.handle.net/2027/uc1.31175032561154

at, must come eventually, and the effort to effect this should originate (I think) from our profession.

I could say very much in support of the views thus annunciated; but, notwithstanding this, I am willing to yield to proof or argument, if it can be shown thereby that my ideas are erroneous.

EXTENSIVE VISCERAL DISEASE SUCCEEDING ON CASTRATION.

By Samuel Gason Going, M.R.C.V.S., Kilkenny.

The few remarks I intend making concerning a case of disease in a year and a half old colt, which came into the infirmary of Mr. Horne, M.R.C.V.S., to be castrated, are as follows:

On the 26th September the above-mentioned colt was admitted into the infirmary to be castrated. The operation was performed the same day with clams, leaving the testicles still attached until their strangulation was complete, when they with the clams were removed. The usual results of the operation followed, viz. slight inflammation and effusion about the sheath, stiffness of limbs, &c., all of which disappeared, however, in a few days, and the animal was sent home. In about a fortnight afterwards we were called to see the colt, which the messenger stated was in a very bad condition, and that the greatest possible difficulty in passing either urine or dung existed. On our arrival some hours afterwards the following symptoms presented themselves:—The colt lay on the ground moaning piteously, its eyes were very dull, pulse weak and quick. On being made to stand it tried to urinate, but could only succeed in ejecting a few drops of urine, which was as thick as oil, and rather fœtid. The animal could not defecate, but when some of the fæces were removed with the hand they were found to be quite hard and difficult to break. Further examination per rectum showed the bladder to be quite full of urine, and that pressure caused intense pain. After carefully observing all the symptoms we came to the conclusion the animal was suffering from ascites, accompanied by stricture of the neck of the bladder. Ol. Olivæ, Oj; Tinct. Opii, ℥j; Bicarb. Sodæ, ℥iv. and also frequent injections, were exhibited: the catheter was also passed, but with difficulty, when no urine came away except a few drops. We then ordered a fomentation over the loins, and the injection to be continued, and left

another dose of oil and opium to be repeated in the evening. When we saw the animal next day he appeared somewhat better, the oil having caused the bowels to act, but still the same difficulty in urinating continued. Occasionally he urinated more freely and in greater quantities, but never without great pain. The dulness continued and the pulse was still weak; appetite pretty good; a good deal of gruel was drank. On seeing the colt next day, the bladder still appearing to be full, we passed the catheter again, with the same result. We then thought that there must be something wrong in the manner in which the catheter was perforated at the end, the holes being very small, and the urine so very thick that it could not pass through them. Not being able to afford any relief in that way, we thought it expedient to cut down on the catheter while in the urethra, and introduce a shorter one, over which we could have more command, and having the holes larger: this was done with difficulty. About two ounces of urine came away, which was very fœtid, and mixed with shreads of pus. Tincture of opium, half an ounce, and oil, four ounces, were ordered three times daily; we also applied mustard to the loins. After this treatment he appeared to rally; but our opinion was that he would not survive the night, and consequently we requested the owner to send for either of us to perform a post-mortem examination, being sure that death would supervene from the state in which we believed the bladder to be. As, however, no messenger came on the following day, I went on the next, and was informed that the animal still lived; on examining him I found general indications of improvement. The same dulness, however, existed, but he appeared easier. The urine came from both openings, and caused some pain, the bowels were open, and the pulse strong. During all this time a good healthy discharge issued from the wounds in the scrotum, and no inflammation whatever existed. The same medicine was continued, and a little acid carbol and water applied to the artificial opening in urethra.

For about ten days we saw the animal pretty regularly, during which time he in every way daily improved, but never regained his real healthy appearance. Two days after the final visit we were called to perform a post-mortem examination, the animal having on that morning died, the man said of *colic*, an assertion which was corroborated by the owner who was up the greater part of the night with the colt. On cutting through the abdomen we found the peritoneum greatly congested, in some places covered with putrid and thickened pus; in the mesentery a mass of abscesses containing ichorous

matter existed; the bowels were in a state of chronic inflammation and quite rotten, the slightest touch breaking through them: they were full of hard fæces. The whole sub-lumbar region was occupied by thin pus, and the psoas muscles were as soft as if boiled. We next examined the kidneys, which had been previously removed, and found each to be of a whitish-yellow colour, soft in texture, but still of greater firmness than the other diseased organs. I at once said they had undergone fatty degeneration, which I afterwards found to be the case by aid of a microscope. The outside of the bladder had a black appearance, and when cut into was full of mixed pus, smelling very *badly*. A quantity of thick pus obstructed the urethra for about four inches; at the base it was an inch in circumference, at the apex about a quarter of an inch; it was found to be carrot-shaped in form when drawn out. The coats of the bladder were about a quarter of an inch thick, and very soft. The ureters were greatly changed. The spermatic cords were not altogether healthy, but were more so than the other organs. We did not examine the brain, but had we done so I am confident it would have been found congested, as there is no doubt that death was caused by blood poisoning. My opinion is that the disease arose independent of the castration, as such entire degeneration could not, in my opinion, have taken place in the course of little more than a fortnight. This conclusion is strengthened by the fact that the spermatic cords were almost healthy at the lower end, but not above, whereas had death proceeded from the castration I am of opinion that the cords would from end to end have been diseased. The owner believes that the castration of the animal was the cause of death; as, however, I do not concur in this I am desirous of obtaining the opinion of some of the members of the profession. It should be observed that before the animal was cut it had a dull, languid, and unhealthy appearance.

Pathological Contributions.

CATTLE PLAGUE.

It will have been observed by our last month's report, that fears were then entertained of the entrance of the cattle plague into Belgium from the northern departments of France. These fears were quickly realised, and as early as December 3rd two cases of the disease were reported as having shown themselves in Belgium, near to the French frontier—one at Oycke, near

virus of tubercle, cancer, and erysipelas, going on only within a limited area.

The ultimate consequences of this inflammatory process in these membranes are—healthy organisation of the products, producing adhesions and circumscribing the action of the heart; great thickening of the membranes; hydrops pericardii; and degeneration of the exudate, giving rise to a large collection of pus in the pericardial sac.

It is seldom that the process extends to the walls of the heart, or to the endocardium; but the lesions mentioned frequently produce sudden death, although, in some cases, the animal may have appeared previously to be thriving and doing well.

Great care is often required in order to avoid confounding these pericardial changes with those produced by the penetration of foreign bodies from the stomach.

GLANDERS IN THE UNITED STATES CAVALRY.

WE have received the following interesting circular for publication. It assists us in ascertaining the geographical distribution of Glanders, and the way in which it may be modified, particularly in its pathological anatomy, by climate.

"WAR DEPARTMENT,
"QUARTERMASTER GENERAL'S OFFICE,
"*Washington, D.C., December 2,* 1875.

"The following report, by S. G. Going, Veterinary Surgeon, First Regiment U. S. Cavalry, dated Benicia Barracks, Cal., Oct. 11, 1875, on the outbreak of Glanders among the horses of certain companies of the First Regiment of Cavalry, is published, by direction of the Hon. Secretary of War, for the information of the Army in general, and especially for the Cavalry Service.

"RUFUS INGALLS,
"*Acting Quartermaster General,*
"*Brevet Major General, U.S.A.*"

BENICIA BARRACKS, CAL.,
October 11, 1875.

For the information of the War Department, I respectfully submit the following report of an outbreak of Glanders in three companies of the First U. S. Cavalry.

In the beginning of April last I examined the horses of "A" and "D" companies, also some horses and mules of the Quartermaster's Department, together with the horses of the Regimental Band. At the time there were about 180 public animals at the post: 79 of these I found to be affected with Glanders.

Not being here at the time the disease appeared first, I cannot give a history of it from observation; however, the history I here give I have received from a very authentic source. It is as follows:—

HISTORY.

A purchase of cavalry horses was made at this post in the summer of 1873. From this purchase a number were assigned to Company "I.," First Cavalry. Before this company left the post a disease, from its character now believed to be Chronic Glanders, made its appearance amongst the horses which were of the purchase referred to. A private horse, the property of the Colonel, was similarly attacked. The disease was assumed to be Farcy, and he was sent out of the garrison.

At this time there was nothing in the appearance of the public animals to betray the existence of Glanders. Their general health was good.

Throughout the winter of 1873-4 the horses were kept closely confined in their stables; water was carried to them in buckets the full allowance of forage was fed to them; they received no exercise. The miry nature of the soil when wet from long-continued rain, such as prevailed during that winter, was extremely unfavourable to the exercise of the animals, and almost rendered their long and close confinement to stables absolutely unavoidable.

The next case that there is positive record of occurred amongst the horses of "A" company.

On the 30th of August, 1874, a horse was destroyed as being

"farcied,"—the inspector remarking, "This horse has been unserviceable for months; every care has been taken of him." About this time several of the horses presented the following symptoms:—Discharge from the nostrils; swelling of the submaxillary glands; slight cough. It was believed their complaint was of a simple epizoötic character. There were no facilities at the post for isolating horses with symptoms of a suspicious nature.

There was for each company only one stable, of a capacity barely sufficient to accommodate fifty horses, in which both sick and well were confined.

The third and fourth instances of Glanders are recorded as having occurred in the Regimental Band. These were inspected by Captain Hasbrouck and ordered to be destroyed.

In the fall of 1874 new cases were occurring, the animals dying with symptoms of acute Pneumonia.

There was one case in November, one in December, one in January, and one in February. *No horse at any time affected with the disease recovered.*

In December, 1874, a new stable was put up, but it was found impossible to carry out complete isolation; every effort was made, but with no success. On my examining the horses I found them, with few exceptions, in good condition. The following symptoms I observed present:—

Symptoms.

More than one-third of the public animals had a discharge from either one or both nostrils; when only from one, it was usually the left. The character of the discharge varied; in some cases it was thin, watery, or mucous, while in others it was thick, purulent, and glutinous, of an amber colour, speedily drying up, and so clogging the orifice. In many instances fetor was present. The submaxillary glands were enlarged considerably, sometimes one and sometimes both indurated or hardened, and apparently adherent to the bone. In some cases the glands were large, soft, and painful, the inflammation being diffused. This was the primary stage. A mucous discharge flowed from the eyes, which appeared weak. Most of the animals were

troubled with a painful cough. Some had abscesses forming in different parts of the body; some were already formed, and discharging ichorous, sanious matter or pus. These abscesses were where the lymphatics are more abundant, as at the inside of the arm. The lymphatics leading from the submaxillary glands were corded.

Having the nostrils cleansed, I proceeded to examine them. In the majority of cases marked ulceration was present; some ulcers were small, deep, ragged at the edges, of a red hue; others covered almost the whole surface of the septum nasi, or plate separating the two nostrils; these were of a dark livid colour, and indolent in appearance.

I pronounced the disease to be Glanders. The greater number of the cases were chronic.

POST-MORTEM EXAMINATION.

A horse was now selected as a subject for a *post-mortem* examination. This horse had been diseased for months. The mucous membrane of the nasal cavities was acutely inflamed and covered with ulcers. On opening the thorax or chest, the lungs were seen to be much diseased. The left one, and the greater portion of the right, were in an advanced stage of hepatisation or consolidation. They were not so dark in colour as is usually seen under the circumstances. In some parts it was a brownish purple, in others it was very red. The superior portion was "marbled,"—that is, marked by alternate rings of light and dark colouring.* On being cut, a whitish turbid fluid exuded therefrom. There were no abscesses in the lung-tissue; some were seen in the deep-seated lymphatic glands. The liver was enlarged, dark, and hardened.

I recommended that all the animals showing the slightest signs of the disease should be destroyed.

So much property being involved, the Assistant Inspector General wished to have some experienced veterinary surgeon called in in consultation. Accordingly, Mr. De Favelle, of San

* In a private note Mr. Going remarks that this marbled appearance had not been observed by him in cases of Glanders in any other country. It is much like what is seen in the contagious Pleuro-pneumonia of cattle.

Francisco, was sent for. He entirely agreed with me as to the nature of the disease and the course that should be taken. On the following day, seventy-nine horses and mules were shot. After this, on the appearance of the disease in any public animal, it was taken out and destroyed. Head-collars, blankets, combs and brushes, cinchas, etc., etc., that had been used about the animals were also destroyed.

The railing surrounding the reservation, the men's quarters, hitching-posts, etc., etc., were whitewashed—the fluid containing a quantity of carbolic acid. The entire stabling occupied by the horses was burned: the horses were picketed on a different part of the reservation.

For some three weeks cases appeared daily, when the disease stopped, and it was supposed it was checked. No case occurred until the 11th of the following June, when one case was observed, another on the 12th, and still another on the 17th. I might here mention that drilling commenced on the 1st of June—which, to my mind, accounts for the re-appearance of the malady. The virus of Glanders was latent in the animals' systems; the horses were in a good state of health at the time, so it did not make itself manifest; but when drilling began, the horses being violently exercised, it made them more susceptible to the action of the poison. Cases were now reported at intervals of from three to six days. In one case, where there were but slight indications of the disease, I made a *post-mortem* examination. I found the lungs in a fearful state; the whole organs were in a hepatised condition—more like liver than its natural condition; indeed, it surprised me how the poor creature performed its daily duty under the circumstances. I now became convinced that almost every public animal at the post had Glanders in its system. The propriety of having all the solipeds at the post shot was now discussed. Accordingly the commanding officer communicated with Department Headquarters, embodying a suggestion that the course mentioned might be taken; the answer received was to the effect that an animal was to be selected "that gave evidence of most likelihood of having the disease; this animal was to be killed and a *post-mortem* made.' If it was found that he had the disease, a second selection was

to be made and disposed of in the same manner. This was to be kept up until an animal was found giving no evidence of the disease. The post surgeon and myself were to conduct the *post-mortem* examinations. Three horses were selected by me; none of these had any discharge from the nostrils, neither were the submaxillary glands enlarged, yet they were in very poor condition—in fact, they were the most likely subjects at the post to have latent Glanders. The first examined was found badly diseased; its lungs were in an advanced stage of consolidation. The second one was also diseased, but not so much; the liver in both cases I found enlarged. The third one was, in my opinion, healthy; the post surgeon was of opinion he had heart-disease. The killing was discontinued now. A report of the above was forwarded by the regimental commander to Department Headquarters. In reply, it was ordered that all animals that had been subjected to the contagion should be shot: this was immediately acted upon.

There have been one hundred and seventy-two public animals shot at this post since April last. I will here give the following reasons why, in my belief, this was the best course to be followed. At the time I saw the horses first the healthy and diseased were stabled together; the amount of spores exhaled from the lungs, and the amount of matter discharged from the nostrils, was sufficient to poison the blood of hundreds of horses if it entered it, which was most probable, as they were closely packed together, as at the picket-line, etc. I am convinced that every animal at the line became impregnated with it, and if it lived long enough it would become developed. No fixed time can be allotted for its latency—the period of incubation varying from three days to twelve months.

The question may arise, How is it that, when Glanders breaks out in private stables, all the horses therein are not destroyed? It is thus answered: In well-regulated establishments, when animals are attacked with a disease of a suspicious nature, the subject is quarantined—at least it is separated from other animals; the case is closely watched, and in the event of its proving to be glandered it is destroyed, and the necessary disinfection resorted to. Here it was quite out of the question, as I have before

stated, to take the required precaution. Suppose for a moment that a few of the animals were saved: you could not, with prudence, associate them with other animals for one year, by which time they would have consumed more forage than was originally paid for them.

In the latter part of April last I was ordered to proceed to Camp Halleck, Nevada, for the purpose of examing the horses of Company "I," 1st Cavalry, reported as diseased. I found five of them glandered. They were destroyed. I believe the cause of so few cases occurring in this company was owing to the fact that the affected horses were isolated on the first signs of the disease. The stables occupied by those horses were burned. Since my return some cases have been reported by the company commander. The horses of this company are now in good health, I am informed.

One man is reported by the post surgeon as having died from the effects of this disease in January last.

(Signed) S. G. GOING, M.R.C.V.S.,
Vet. Surgeon 1st U.S. Cavalry.

STRICTURE OF THE ILEUM IN A HORSE.*

BY JOHN HOWARD, M.R.C.V.S., WOOLWICH.

THE subject of the above was a bay horse about twelve years old, the property of a well-known purveyor of this town. He was an indoor patient, and arrived at the Infirmary at 10.30 p.m. on the 16th of November, 1875.

On examination, he appeared to have been under the influence of active disease for eight or ten hours. The groom supplied the following particulars:—The horse came in about 12.30 noon, having been worked very hard in a spring cart; he lay down apparently much dejected, but shortly after arose and partook of a liberal feed. He then resumed the recumbent posture, in

* Read before the Central Veterinary Medical Society, on June 1st, 1876.

twelve hours before death, being typical of that which was taking place in the stomach and along the whole intestinal tube. It will now be seen that the absence of alvine evacuations during the course of the disorder are accounted for on strong grounds; as in the presence of such violent antiperistaltis, defecation, or the expulsion of the enemata, becomes an impossibility. This would also, in some trifling degree, indispose to micturition.

I am not aware that these symptoms, or any explanation of the pathological conditions of Acute Gastritis, of which they are pathognomonic, have ever been enunciated before.

(*To be continued.*)

"BOTS" (*ŒSTRUS EQUI*) OBSTRUCTING THE DUODENUM OF A HORSE.

BY S. G. GOING, M.R.C.V.S., 1ST U.S. CAVALRY, CALIFORNIA, U.S.A.

NEVER having seen a case similar to the following, I venture to record it, trusting it may be interesting to some of the readers of the *Veterinary Journal.*

For some weeks, a six-year-old horse belonging to C and D Companies, 1st U.S. Cavalry, was noticed in an unthrifty condition; he ate little, his coat stared, and he appeared languid. On the 28th February he was reported to me, and I found him as described. He exhibited marked signs of thirst. I considered it a case of indigestion, and treated him accordingly. No change was noticed for three days, when he showed signs of Colic. I gave him the following draught:—

℞. Tinct. Opii . . .	℥iss.
Spts. Nit. Ether . .	℥iss.
Ol. Lini. . . .	℥xx.

This relieved him for the time, but in some hours he was as bad as ever. I gave some more of the same medicines; administered enemas, which were retained but a short time; a large quantity of mucus came away, but no fæces. I introduced the catheter—in fact, the usual treatment for Colic was resorted to.

He continued in this way for two days, when some semi-fluid fæces were passed. I now considered it a case of Muco-Enteritis. The above treatment was varied but little; Aconite was substituted for Opium. Some Aromatic Spt. Ammonia was given in oil. He got 25 oz. of oil in all. He ate nothing during his illness, but drank with apparent relish.

The pulse was small, hard, and much accelerated; coldness pervaded the whole body; and great force was applied against my hand when introduced into the rectum.

Prognosis—Unfavourable. I believed there was an obstruction in one of the intestines.

On the sixth day after being admitted into hospital he died.

Autopsy.—The whole intestinal tube was slightly inflamed, but not sufficiently so to cause death. The colon was filled with semi-fluid fæces, immediately behind which were some dry excreta. The stomach was distended with food—which surprised me, as the animal had not eaten for days. On opening it, a disagreeable sour smell was emitted, and the mucous coat peeled off with the contents. About four inches of the duodenum was much hardened; on cutting down on it, without exaggeration, hundreds of bots were found attached to its walls: indeed, so closely were they packed that you could not pass a pen-handle through the gut without removing some of them, or penetrating their bodies. The contents of the stomach could not possibly pass by them. There were only three or four bots in the stomach, which organ was not at all inflamed.

The liver was enlarged; on being cut into, it was of a yellowish colour, and bile dropped from the ducts. This condition was no doubt caused by the bots preventing the passage of bile from the main duct. I did not detect, during life, any symptoms of liver disease.

I am of opinion the horse died from inanition, and irritative fever.

Some may suppose I should have given, in the first instance, a dose of aloes; but the action of that drug in this country is so uncertain that I never use it. I have given three ounces to a horse, without producing purgation.

I may here mention, that in such cases as the above, the death

of the animal is "laid at the door" of the veterinary surgeon; as in this region the profession is, I may say, in an unborn state. In the city of San Francisco, two miles from here (Benicia Barracks),—a city of 150,000 inhabitants—there is only one qualified veterinary surgeon; though there are dozens of "quacks."

In stating that the veterinary surgeon is blamed in such cases as the one recorded, I refer to practice in civil life.

NAVICULARTHRITIS.

BY T. D. BROAD, M.R.C.V.S., BATH.

LAST year I was requested to go a distance of forty miles to examine a horse which had been regularly hunted for a month after purchase, when he suddenly became lame, and was examined by a practitioner, not a M.R.C.V.S., who certified that the cause of lameness was chronic navicular disease in the off fore-foot; and as the horse had been passed as sound at the time of purchase by a young veterinary surgeon, it was alleged that he had shown a want of skill, or negligence, in not having detected the lameness; consequently law proceedings were commenced against him. After examining the horse, I gave an opinion that he was lame from chronic navicular disease of the foot, but that at the time of purchase he may not have shown the slightest symptom of lameness, as there was no altered structure, or difference in the appearance of that foot from the other; consequently there were no grounds for alleging negligence or unskilfulness, and that opinion prevented further law proceedings, which the veterinary surgeon will probably be unaware of until he reads this.

I may ask what practitioner of any experience has not had similar cases of lameness brought under his notice after his own examinations. The ordinary course taken when horses become lame from navicular disease,—especially if they are considered valuable,—is to allow a long rest before being offered for sale, which will often render them free from lameness for several weeks, even in chronic incurable cases.

Appendix X. Enteritis

Enteritis in Cattle Caused by Eating Cornstalk Fodder.

Paper read by Dr. Going, State Veterinarian, before the State Board of Agriculture, at Topeka, January 10, 1890.

MR. CHAIRMAN AND GENTLEMEN:—By request of Hon. Martha Mohler, Secretary of the State Board of Agriculture for Kansas, I have prepared a statement of what, in my opinion, is the cause of the mortality among cattle when turned out to feed in the cornstalk pasture. That death is caused by acute inflamation of the stomach and intestines is of course quite plain. I have made a number of *post mortem* examinations on cattle after dying as above mentioned, after being allowed to feed to repletion upon cornstalks, and the symptoms presented are invariably the same, viz: Extensive inflamation of the alimentary canal and covering of the brain. When cattle are first turned into a cornstalk pasture they feed voraciously, regardless of the disastrous consequences that so frequently follow engorgement with this coarse, dry and almost indigestible food. But as this disease is not of a contagious or infective nature, I am not permitted at the expense of the State to go and personally investigate the symptoms, course and termination of cases reported to me by farmers whose stock suffer. Therefore I can only advise by letter, giving treatment that I have found most successful in cases both of this nature among my own cattle and those I have been called upon to treat in my capacity as a private practioneer before I entered the service of the State

The character of the food and the habit and condition of the animal operate as direct cause of the disease of the alimentary canal. Very rich and consentrated food taken in undue quantity, or very innutrious substances, such as over-ripe straw or hay, or cornstalks, which being composed almost entirely of woody fiber, and sillicon will cause enteritis This effect is due more to the action of these substances as foreing bodies, which are not subject to the digestive action of the secretions of the mouth, stomach and bowels, that to the want of other elements necessary to life, and the perpetuation of health. The digestive function failing to perform its work, the contents of the stomach and bowels become a cause of severe inflamation, in which nature's recuperative powers too often prove unequal to the emergency; especially is this the case where cattle are not thoroughly habituated to the use of unwholesome food. I am fully convinced that the whole cause of the trouble in the case where cattle die after being turned out among cornstalks to feed, is due to the indigestibility and the large quantity of food indigested.

My personal experience while in the cattle business was that by allowing the cattle to remain only one hour a day among the stalks until their stomachs became accustomed to the work required of it, and allowing plenty of pure water, no cattle were lost. After being handled in this way for about ten days I consider it safe to turn them permanently out among the stalks.

When cattle are allowed to engorge themselves with unmasticated and only partly masticated food, especially when it is of a coarse, cellulose character, it becomes impacted in the paunch (rumen, first stomach) or manipl (third stomach) or both. The animal is then unable to regurgitate the contents for the second and final mastication which is the cud-chewing process. As a consequences, this body of compressed material, acting like a thorn in the flesh creates an inflammation, which, without timely and proper treatment, results in fatal termination. This inflammation upon the mucous membrane of the stomach extends from contiguity of tissues to the muscular coats, and then on to the intestines, and finaly to peritoneum, setting up a peritonitus involving the entire contents of the abdominal cavity. This extensive and severe inflamation is sufficient to involve by sympathy the membranes of the brain and the unmistakable symptoms of meningitis are observed. The affection is usually followed soon by relief in death. Cornstalks that are damaged fly mould or rot, or contaminated by smut, should not under any circumstances be fed to stock, unless to prevent starvation—when no proper, wholesome food could be procured. In my opinion most of the losses incured by death from indigestion originating in cattle, which are allowed to have free access to cornstalk fodder, could be entirely avoided by handling the stock as follows:

First—Before turning them into the stalk pasture, see that they start in on pretty full stomachs, of food which they are accustomed to eating, then they cannot possibly overeat the first time, then allow them to remain in the stalk pasture about an hour each day thereafter, gradually increasing the time, as before stated. This gives the stomach time to become accustomed to this class of food. You can then safely allow the stock to run among the cornstalks at will. Never lose sight of the fact that a constant and full supply of pure water is absolutely necessary for the well being of cattle while kept upon this class of food.

Notwithstanding the high mortality among cattle affected with indigestion due to impaction, treatment is not always to no purpose, and we can only feel that we have used all the knowledge that we possess in attempting to alleviate or ease the dumb animals' suffering.

The rational treatment of all diseases is to remove the cause of the morbid conditions and in the case under discussion to remove the indigestible mass from the stomach, is indicated. For this purpose I have found the following mixture to be very successful: Linseed oil, 1 quart; croton oil, 20 drops; molasses, 1 pint; ginger tincture, 2 ounces; mix well and give as one dose to each animal. Of course this is a dose for an adult. Half the dose would be suitable for a one-year-old animal, and so on according to age If this be unsuccessful in producing a copious discharge from the bowels inside of twenty-four hours repeat the dose, The sooner this treatment is adopted in the early stage of the disease, the more likely is recovery to follow. As soon as the stomach and bowels are thoroughly cleansed out by the action of the purgative medicine given; administer the following daily to each animal under treatment: Common salt, four ounces; nitrate potash, ½ ounce; bi-carbonate soda, 1 ounce; sirup, 1 pint water, one quart; mix well and drench. Three days will be sufficient to keep up this treatment. At all times during treatment allow free access to be had by the sick stock to water. Injections are often used with effect, as follows: Warm water, 4 quarts; 1 ounce soap (dissolved); 1 ounce pure glycerine; mix well and give by syringe per rectum. Give sloppy food afterwards for some days, such as bran mash, boiled carrots or cabbage, etc.

If the case does not yield to this course of treatment there is evidently such a degree of impaction thet no medicine you can administer will have any effect. Then the only chance left is to cut into the stomach through the abdominal wall and to remove the contents by hand. This, of course, can be done with any prospect of success, only by a skilful veterinary surgeon.

In cases where distention of the stomach by gas is present, the use of the trocur and canula will soon afford relief. Prevention should be the watchword of the stock owner and if rationally pursued he will have little need to trouble much about the use of medicine or surgery for the disease under discussion.—*Kansas Farmer.*