



Review Article

**DOCUMENTED VETERINARY AYURVEDIC TREATMENT CLAIMS FROM ANDHRA PRADESH REGION
ON CERTAIN IMPORTANT GASTROINTESTINAL DISEASES OF CATTLE**

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ABSTRACT

Gastro intestinal (GI) diseases are common to cattle. These diseases give lots of pain and discomfort to the cattle and loss to the cattle keepers. Ayurvedic medicines have high potentiality in treating many non infectious GI disorders. In infectious GI diseases irrational use of antibiotics has increased the risk of resistance as well as side effects. There is a surge of search for alternative therapies and Ayurveda is believed to be the promised answer. In Andhra Pradesh many scholars and traditional physicians practiced Ayurvedic methods; medicines for the cattle treatment and few of them had dedicated their lives completely to Ayurvedic veterinary practice. They magnificently combined traditional wisdom of classical Ayurvedic texts with newly acquired knowledge from modern veterinary medicine. They used to diagnose the diseases on modern methods and treatment was given through Ayurvedic drugs. They recorded their treatment and research findings, documented and presented them in a systematic way for their publications. These publications are not available in public domains and they are protected by AP states archives, Hyderabad. These Telugu publications are unique to veterinary medicine. With lots of efforts and literary research the data is compiled and translated. Many GI diseases and there remedies are dealt in these publications and present paper deals the treatments of indigestion, painful condition due to indigestion, tympanites (abdominal distension), grain sickness (grain poisoning or acidosis), fardel-bound and colic., This article explores treatments in a scientific manner with suitable Botanical or English names of the plants along with dose in metric equivalents.

KEYWORDS: Veterinary, Ayurveda, Cattle, Indigestion, Tympanites, Grain sickness.

INTRODUCTION

In Andhra Pradesh state, Indian system of medicine has been flourishing from the time immemorial in the treatment of mankind and the animal kingdom. Scholars and traditional physicians always tried to enrich this system incorporating new developments and research outcomes in their day to day practice. They published many books in the regional language covering ancient methods of protection against cattle, nature of ancient former, preventive measures of diseases, examination of cattle, descriptions of the various drugs used in the treatment of cattle, brief introduction to anatomy and physiology of cattle, pharmaceutical procedures of various Ayurvedic medicines and dosage forms etc.¹ Cattle diseases are explained under various headings like diseases of the gastro intestinal system, infectious diseases, and diseases of respiratory system etc. Many internal medications, external pastes, ointments are explained with perfect doses of the each combination.¹

Material and Methods

Soft copies and hard copies of the published books of various traditional veterinary Ayurvedic physicians of Andhra Pradesh were collected from the Andhra Pradesh state archives department by National Institute of Indian Medical Heritage, Hyderabad. These books were studied under the Intra Mural Research project entitled "Exploration of veterinary practices in Ayurveda". Based

on the disease description and clinical findings mentioned in Telugu language, these diseases are matched with modern books like Merck's veterinary manual etc. Further with consultation of modern veterinary doctors traced the Allopathic disease equivalents of various vernacular names of the diseases. In the same way in consultation with botanists, linguistic experts, cattlemen, traditional scholars, botanical equivalents of plants/ drugs used in various formulations, chemical names of minerals and English names of animal origin products are identified. Along with this various Materia Medica of Sanskrit and regional languages viz., *Vastugunadipika*, *Vastugunaprasashika* in Telugu, texts of Ayurveda like *Dravyagunavignana* and *Dravyagunakosh* of Prof. P.V. Sharma, *Bhava Prakasha Nighantu* edited by Prof Chunekar and dictionaries were referred. Online websites like Envis centre on FRLHT, Forest flora are also referred to find Botanical equivalents of vernacular Telugu plant names. Present paper is presented in such a way that each formulation used in these diseases are explained with English or Botanical or Chemical names of the drugs. Quantity of each drug used in the formulation is explained in metric measurement along with vernacular doses in brackets. Dosage of each formulation is also clearly indicated. Each formulation is superscript with reference number. This method of presentation is selected for

transparency to the reader along with scope for further confirmation of equivalents and for further scope of research.

1. Indigestion

Local Names: *Ajirti, Arava andirava*

Aetiology and clinical findings

Intake of low fodder in summer season and high fodder in rainy/winter season after the regular normal diet providing excess flours of millets, horse gram etc, excess diet and low work, worms in the intestines, intake of hard substances and lime are the main causes of indigestion.²

Loss of appetite, intake of half of the normal diet, decreased rumination, constipation, gurgling bowl sounds, rough and dull hair coat, flatulence, decrease from the taste of milk in milch cows, wasting, anemia are the clinical findings.²

Treatment

1. Prepare a mixture of 24 g (2 *tulamulu*) baking soda, 48 g (4 *tulamulu*) *Hyoscyamus niger* L., 12 g (1 *tulamu*) asafoetida, 12 g (1 *tulamu*) *Andrographis paniculata* (Burm.f.) Wallich Ex Nees. and 48 g (4 *tulamulu*) salt. Orally administering this mixture once a day for 15 days along with lukewarm water cures the indigestion.²
2. Prepare a mixture of 24 g (2 *tulamulu*) dry ginger, 12 g (1 *tulamu*) black pepper, 12 g (1 *tulamu*) long pepper, 24 g (2 *tulamulu*) asafoetida, 164 g (1 *gidda*) seeds of *Trachyspermu mammi* (L.) Sprague. and 36 g (3 *tulamulu*) salt. Orally administering this mixture once a day for 15 days along with lukewarm water cures the indigestion.²
3. Orally administering the mixture of fistful coriander seeds, 24 g (2 *tulamulu*) long pepper, 24 g (2 *tulamulu*) seeds of *Centratherrum anthelminticum* (L.) Kuntze., 48 g (4 *tulamulu*) *Hyoscyamus niger* L. and 48 g (4 *tulamulu*) salt cures the disease.²
4. Orally administering the mixture of 140 g (0.5 *seru*) expressed juice of leaves of green chillies, 12 g (1 *tulamu*) black pepper and 30g (2.5 *tulamulu*) salt cures the disease.²
5. Orally administering the mixture of 24 g (2 *tulamulu*) of gum of *Commiphora mukul* (Hook. ex. Stocks.) Engl. 12 g (1 *tulamu*) *Picrorhiza kurroa* Royle. ex Benth., 12 g (1 *tulamu*) dry ginger and 48 g (4 *tulamulu*) salt cures the disease.²
6. Orally administering the mixture of 12 g (1 *tulamu*) cloves, 24 g (2 *tulamulu*) dry ginger, 18 g (1.5 *tulamu*) *Andrographis paniculata* (Burm.f.) Wallich Ex Nees. and 24 g (2 *tulamulu*) salt cures the disease.²
7. Prepare the mixture of tamarind juice, dried red chilli powder, salt and mustard powder. Orally administering this mixture in the dose of 420 g (3 *gottamulu*) for a day cures the disease.²
8. Grind fistful or 2 fistful quantity of salt and mix with 48 g (4 *tulamulu*) of dry ginger powder. Orally administering this duly mixed in enough quantity of tolerable hot water cures the disease.²

9. Grind a coconut mixing with 280 g (1 *seru*) water. Orally administering this coconut paste along with 120 g (10 *tulamulu*) salt cures the disease.²
10. Administering 11.091 ml (3 dram) rectified spirit is also beneficial.²
11. Boil three fistful dry red chillies in 560 g (2 *Serlu*) water, squeeze the chillies with hand to get the essence and filter. Orally administering this decoction is also useful in curing the indigestion.²
12. Orally administering 140 g (1 *gottamu*) of the buttermilk mixed with paste prepared by grinding crystal salt, mustard powder, and garlic for 15 days cures the disease.^{3, 4, 5}
13. Prepare the paste by grinding fistful quantity of shoots/young leaves of *Wrightia tinctoria* R.Br. and *Sarcostemma brevistigma* Wight. along with 12 g (1 *tulamu*) each of garlic, seeds of *Vernonia anthelmintica* (L.) Willd. and mustard seeds. Orally administering this paste along with 480 g (0.5 *seru*) of cow's urine once a day in the morning cures the disease.⁶
14. Orally administer the water which is mixed with 144 g (12 *tulamulu*) of salt.⁷
15. Orally administer 840 g (1 *savaseru*) coconut oil.⁷
16. Orally administer the mixture prepared by grinding 2 fistfuls of leaves of *Cadaba trifoliata* Wight. & Am. Prodr., 18 g (1.5 *tulamulu*) of black pepper and 18 g salt along with 420 g (3 *gottamulu*) fermented rice water.⁷
17. Orally administer the mixture prepared by grinding 18 g (1.5 *tulamulu*) turmeric, 18 g of bark of *Moringa oleifera* Lam. and 18 g of seeds of *Centratherrum anthelminticum* (L.) Kuntze. along with 140 g (0.5 *seru*) hot water.⁷
18. Orally administer the mixture prepared by grinding 36 g (3 *tulamulu*) seeds of *Trachyspermu mammi* (L.) Sprague., 36 g baking soda and 36 g shoots of *Azadirachta indica* A. Juss. along with 140 g (0.5 *seru*) hot water.⁷

Treatment for both Indigestion and colic (*Ajirnavata*)

19. Orally administer the mixture prepared by grinding 180 g (15 *tulamulu*) fruits of *Solanum melongena* L. which is mixed in 180 g of sesame oil. In case of severe pain administer 360g (30 *tulamulu*) paste of fruits of *Solanum melongena* L. which is mixed in 360 g of sesame oil. Continuing the treatment for 15 days relieves other chronic diseases also.⁷
20. Mix 288 g (24 *tulamulu*) common salt in 280 g (1 *seru*) hot water till it dissolves. Orally administering this or administering half of the dried bottle gourd quantity of rectified spirit cures the disease.⁷
21. Orally administer the mixture prepared by grinding 36 g (3 *tulamulu*) bark of *Moringa oleifera* Lam., 18 g (1.5 *tulamulu*) rhizomes of turmeric and 18 g of common salt.⁷
22. Orally administer 420 g (3 *gottamulu*) spicy milk prepared from green chillies and boiled milk.⁸

23. Orally administer the mixture of dry red chilli powder, flour of mustard seeds and common salt.⁸
24. Orally administer the mixture of ash of burnt stems of *Euphorbia antiquorum* L., dry red chilli powder and flour of mustard seeds.⁸
25. Orally administer the mixture of cloves of garlic, mustard seeds and dry red chilli powder with fermented rice water.⁸
26. Orally administer the mixture of cloves of turmeric, leaves of *Azadirachta indica* A. Juss., dry red chilli powder and rock salt with fermented rice water.⁸
27. Orally administer the mixture of blackness produced by wood smoke, omum seeds, common salt, cotyledons of *Caesalpinia bonduc* (L.) Roxb. and mustard seeds with fermented rice water.⁸
28. Orally administer 420 g (3 *gottamulu*) mixture of juice of leaves of bitter gourd, common salt, dry red chilli powder and fermented rice water.⁸
29. Orally administering the mixture of omum seeds, mustard, the blackness produced by wood smoke, common salt, five types of salts mentioned in Ayurveda and asafoetida along with fermented rice water cures all types of colic pains.⁸
30. Orally administer the mixture of urine of human being, seeds of *Melia azedarach* L., salt and fermented rice water.⁸
31. Orally administer the seeds of green chillies along with hot water.⁸
32. Orally administer the expressed juice of whole plant of *Solanum surattense* Burm. F., five types of salts mentioned in Ayurveda, garlic and fermented rice water.⁸
33. Orally administer the mixture prepared by grinding 180 g (15 *tulamulu*) fruits of *Solanum melongena* L. which is mixed in 180 g of sesame oil. In case of severe pain administer 360g (30*tulamulu*) paste of fruits of *Solanum melongena* L. which is mixed in 360 g of sesame oil. Continuing the treatment for 15 days relieves other chronic diseases also.⁹
34. Mix 288 g (24 *tulamulu*) common salt in 280 g (1 *seru*) hot water till it dissolves. Orally administering this or administering half of the dried bottle gourd quantity of rectified spirit cures the disease.⁹
35. Orally administer the mixture prepared by grinding 36 g (3 *tulamulu*) bark of *Moringa oleifera* Lam., 18 g (1.5 *tulamulu*) rhizomes of turmeric and 18 g of common salt.⁹

2. Tympanites (abdominal distension) or Hoven or Blown

(Tympanites is distension of the abdomen that is caused by the accumulation of gas in the intestines or the peritoneal cavity).

Local Names: Kadupubbu, Udu, Morashela, Boravali, Eguboravali, Diguboravali Andududuvatamu

Clinical findings

Bloating/distension of abdomen especially in left side is the main clinical sign. Pressing on distended part causes tapping sounds like drum or balloon. Pain, deep

breathing, stretching of neck and body to take breath, rolling on both sides, dullness, stopping of rumination, moaning etc., are the clinical findings. In acute cases, death occurs within 3-4 hours.¹⁰

Treatment

1. Orally administering the ash prepared from burning the stalks of *Sorghum vulgare* Pers. or grass of *Oryzasativa* L. in the dose of 420 g (3 *gottamulu*) cures the disease.¹⁰
2. Initially oral administration of 420 g (1.5*seru*) lukewarm water mixed with 328 g (0.5 *sola*) salt cures the distension of the abdomen.¹⁰
3. Orally administering 11.091 ml (3 dram) rectified spirit mixed with 24 g (2 *tulamulu*) asafoetida cures moaning and distension of abdomen caused by excess intake of fodder.¹⁰
4. Therapeutic venesection on swollen blood vessels is indicated for the cattle suffering from difficult breathing along swollen blood vessels on face.¹⁰
5. Orally administering 420 g (1.5*seru*) lukewarm water mixed with 120 g (10 *tulamulu*) of dung of fowl cures the disease.¹⁰
6. Orally administer the mixture of juice of leaves of *Albizia lebbek* (L.) Benth., 48 g (4 *tulamulu*) dry red chilli powder, fistful salt and 280 g (1*seru*) fermented rice water.¹⁰
7. Grind 24 g (2 *tulamulu*) *Foeniculum vulgare* Gaertn., 24 g (2 *tulamulu*) cardamom, 24 g (2 *tulamulu*) cumin seeds and 24 g (2 *tulamulu*) dry ginger. ¹⁰Orally administering the mixture of these powder along with 280 g (1*seru*) lukewarm water cures the disease.¹⁰
8. Left side incision in between vertebra, last ribs and hip bone is indicated in cattle suffering from sudden and severe distention of abdomen with full of fermented gas. Incision with a knife or trocar (a medical instrument with a sharply pointed end, often three-sided, that is used inside a hollow cylinder (cannula) to introduce this into blood vessels or body cavities.) 6 causes forcible elimination of foul fermented gas and relieves the distension. Repeat the procedure on next day also and after completion of the procedure, orally administer the mixture of 280 g (1 *seru*) of seed oil of *Sesbania grandiflora* (L.) Poir. or castor oil which is mixed with 72 g (6 *tulamulu*) paste of ginger.¹⁰
9. Mix the ash prepared from burning the old stalks of *Sorghum vulgare* Pers. in water and administer orally.^{11,12}
10. Same procedure is indicated. Instead of cannula bamboo is used with a precautionary knot with thread on external side of instrument. Immediately after expulsion of the gas initiate purgation by orally administering the mixture of 340.2 g (12 ounces) salt or epsom salt, 14.176 g (4 drams) dried juice of *Aloe vera* L., 14.176 g dry ginger and 226.8 g (8 ounces) cumin seeds and 946.3 ml (1 quart) hot water.¹³ or administer the mixture of 300 ml (10

- ounces) seed oil of *Cassia alata* L., 300 ml of olive oil and 30 drops of seed oil of *Croton tiglium* L.¹³
11. Orally administer the mixture of 144 g (12 *tulamulu*) blackness produced by burnt wood smoke and 280 g (1*seru*) of fermented rice water.¹⁴
 12. Orally administer the mixture of 280 g (1*seru*) water extract of seeds of *Trachyspermum ammi* (L.) Sprague. and fistful salt.¹⁴
 13. Grind 48 g (4 *tulamulu*) rock salt, 24 g (2 *tulamulu*) rhizomes of *Acorus calamus* L., 48 g rhizome of *Saussurea lappa* C.B.Cl. and 72 g (6 *tulamulu*) of juice of fruit rind of *Citrullus colocynthis* (L.) Schrader. Smear the mixture with castor oil and administer orally.¹⁴
 14. Orally administer the mixture of 70g (0.25*seru*) of juice of fresh leaves of *Andrographis paniculata* (Burm.f.) Wallich ex Nees., fistful salt and 140 g (0.5*seru*) of fermented rice water.¹⁴
 15. Orally administer the mixture of 24 g (2 *tulamulu*) gum of *Gardenia gummifera* L. f., 12 g (1 *tulamu*) blackness produced by wood smoke, 70g (0.25 *seru*) of juice of fresh leaves of *Caesalpinia bonduc* (L.) Roxb., 48 g (4 *tulamulu*) salt and 140 g (0.5*seru*) fermented rice water.¹⁴
 16. Orally administer the mixture of 36 g (3 *tulamulu*) asafoetida, 48 g (4 *tulamulu*) garlic and 140 g (0.5 *seru*) jaggery.¹⁴
 17. Orally administer the mixture of 140 g (0.5 *seru*) juice of leaves of *Albizia lebbek* (L.) Benth., fistful salt and 280 g (1*seru*) fermented rice water.¹⁴
- Some of the cattle suffers from pain, cough, and distension of abdomen either morning or evening or round the clock and refuse fodder. For these cattle following treatments are indicated.¹⁵
18. Grind 3 fistful leaves of *Adhatoda vasica* Nees., fistful salt and 24 g (2 *tulamulu*) asafoetida. Orally administering this mixture as a single dose along with 280 g (1*seru*) of lukewarm water or spicy milk cures the disease.¹⁵
 19. Orally administering 840 g (1 savaseru) of seed oil of *Sesbania grandiflora* (L.) Poir. mixed with 30 g (2.5 *tulamulu*) of oil prepared from camphor / oil extracted from leaves of *Cinnamomum camphora* (L.) Presl. and 12 g (1 *tulamu*) of *Ammonium chloride* cures the disease.¹⁵
 20. Orally administer the mixture of 72 g (6 *tulamulu*) of powder of burnt coal, 48 g (4 *tulamulu*) dry red chilli powder and 280 g (1*seru*) of lime water (Superficial liquid of lime mixed with water).¹⁵
 21. Orally administering the drink prepared by mixing 280 g (1*seru*) of expressed juice of leaves of *Vitex negundo*, 24 g (2 *tulamulu*) of dry ginger powder, 12 g (1 *tulamu*) long pepper powder, 12 g (1 *tulamu*) black pepper powder, 24 g (2 *tulamulu*) powder of seeds of *Centratherum anthelminticum* (L.) Kuntze., 6 g (0.5 *tulamulu*) dried juice of *Aloe vera*, 12 g (1 *tulamu*) gum of *Commiphora mukul* (Hook. ex. Stocks) Engl. and 280 g (1*seru*) of spicy milk cures the disease.¹⁵
 22. A mixture of 36 g (3 *tulamulu*) of coal powder, 18 g (1.5 *tulamulu*) of red chillies' powder and 2drams (7.394ml) of rectified spirit (alcohol) is indicated orally for permanent cure.¹⁶
 23. Prepare a solution by mixing 48 g (4 *tulamulu*) of salt in 480 g (0.5 *seru*) of hot water. Mix this with 360 g (0.5 *buddi*) of castor oil. Orally administering this causes purgation and removes all dirt of the stomach and makes the cattle normal.¹⁶
In chronic boravali orally administering the mixture of 480 g (0.5*seru*) expressed juice of bark of *Albizia amara* (Roxb.) Boivin. and 480 g lime water twice a day cures the diarrhoea and normalizes the Tympanites.¹⁶
 24. For weakness of rumen: Prepare a mixture by grinding 12 g (1 *tulamu*) each of dry ginger, black pepper, seeds of *Nigella sativa* L., seeds of *Hyoscyamus niger* L., gum of *Commiphora mukul* (Hook. ex. Stocks) Engl. and a fistful of leaves of *Vitex negundo* L.. Dissolve this mixture of powders in 960 g (1*seru*) hot water and add 2 drams (7.394 ml) of rectified spirit. Orally administer this twice a day for two days and after that continue the mixture without alcohol till the end of the disease.¹⁶
 25. In specific cases of Hoven (Distension of abdomen due to gas) orally administer the mixture of 120 g (10 *tulamulu*) of mustard powder, 30g (2.5 *tulamulu*) of ginger, 30 g black pepper and enough quantity of rice gruel. Or
 - a. Orally administer 30 g camphor oil which is mixed with 473 ml (1 pint) oil of seeds of *Sesbania grandiflora* or sesame oil . Or
 - b. Orally administer 473 ml of castor oil which is mixed with 30 g of alum and 12 g (1 *tulamu*) of ginger. Further to strengthen the stomach of cattle, orally administer 30 g of salt mixed with 15 g (1.25 *tulamu*) black pepper.¹⁷

3. Grain sickness (grain poisoning or acidosis)

Local Name: Peddapottaubbu

Aetiology and clinical findings

This disease is common in cattle and sheep. Eating more spikes and grains causes distension of rumen. Excess eating of grain diminishes the action of rumen, stops rumination, animal becomes dull, slight distension of abdomen on left side, percussion of abdomen does not produce sound as seen in tympanites, but pits on pressure. Cattle also suffer from constipation. Cattle prefer standing position due to difficulty in breathing on lying. It stretches neck and body to take breath. Tachypnea, lying on right side, wheezing sounds, clenching of teeth are also seen. Due to fermentation of undigested food, gas accumulates in the rumen, pulse becomes weak, animal suffers from dyspnoea and finally death occurs due to respiratory arrest. Based on severity, duration of the disease lasts between 1-3 days.¹⁸

Treatment

1. Aim of treatment is to digest the stagnated food and to stimulate the function of rumen.

2. Initiate strong purgation by orally administering the mixture of 340.2 g (12 ounces) salt or Epsom salt, 14.176 g (4 drams) dried juice of *Aloe vera* L., 14.176 g dry ginger and 226.8 g (8 ounces) cumin seeds and 946.3 ml (1 quart) hot water.¹⁸ even after 15 to 20 hours if purgation does not happen administer another dose of the same or orally administer the mixture of 300 ml (10 ounces) seed oil of *Cassia alata* L., 300 ml of olive oil and 30 drops of seed oil of *Croton tiglium* L..¹⁸ Or
 - a. Administer enema of the mixture of hot water, soap and sesame oil for every 15 minutes.¹⁸
3. Rub the abdomen (especially left side of abdomen) with hand, foment the swollen region and to increase the appetite and power of digestion, orally administer the mixture of 14.175 g (0.5 ounce) *Ammonium chloride*, 10.632 g (3 drams) powder of dry ginger / powder of omum seeds, 946.3 ml (1 quart) water and 30-60 ml seed oil of *Cassia alata* L. at an interval of 3-4 hours. Provide enough quantities of hot water or gruel prepared from seeds of *Cassia alata* L.. Even after proper purgation and improvement in digestion, continue gruel prepared from seeds of *Cassia alata* L., provide 30-60 g (2.5 -5 tulamulu) salt in diet and restrict heavy meal.¹⁸
4. Even after series of treatments if there is no improvement, surgery with skilled doctor to remove the content of rumen is advised.¹⁸

4. Fardel-bound

Local Name: mūḍavakaḍupulōaducukonuṭa (Stagnation of diet in third component of stomach of animal).

Consumption of unusually dry, tough, or indigestible feed causes the disease. Normally this disease occurs in summer, when there will be less water and fodder. Due to the hunger, cattle and sheep takes hard fiber like grass or stems of the trees. The food upon reaching omasum gets accumulated in the folds of stomach and becomes further drier due to lack of moisture. It affects the function of omasum and immobilizes the same. Constipation, loss of appetite, tachypnea, wheezing, sometimes diarrhoea with hard black masses, reddish urination, abdominal sounds, dyspnoea, clenching of teeth, cooling of horns & ears, decreased pulse rate, foul smell in feces, moaning and death are the clinical findings.¹⁹

Treatment

1. To initiate purgation orally administer the mixture of 340.2 g (12 ounces) salt/Epsom salt, 14.176 g (4 drams) dried juice of *Aloe vera* L., 14.176 g dry ginger and 226.8 g (8 ounces) cumin seeds and 946.3 ml (1 quart) hot water.¹⁹
2. Orally administer the mixture of 300 ml (10 ounces) seed oil of *Cassia alata* L., 300 ml of olive oil and 30 drops of seed oil of *Croton tiglium* L.. Even after 24 hours if purgation does not happen then again administer half quantity of the same medicine.¹⁹
3. After administering purgative medicine for every 5-6 hours orally administer diluted hot gruel of seeds of *Cassia alata* L. along with 60-90 ml (2-3 ounces) of rectified spirit. This medicine softens the hard food of Omasum. Continue this till proper purgation. After

that provide this gruel and gruel of rice repeatedly. Later foment the affected part and orally administer the mixture of 14.175 g (0.5 ounce) *Ammonium chloride*, 10.632 g (3 drams) powder of dry ginger / powder of omum seeds and 946.3 ml (1 quart) water.¹⁹

After Improvement also provide the purgative gruels and light diet and smooth fodder.¹⁹

5. Colic

Local Name: Kadupunoppi, Kadupukuttu

Aetiology and clinical findings

Intake of dry and wet grass simultaneously, rapid intake of leaves and stems of thorny plants, drinking cool water, intake of hard rice bran, intake of Paddy and Millets etc. in large quantities, are the causes.³

Refusal of fodder, absence of rumination, groaning /moaning, irritation, bruxism (involuntary biting of teeth), kicking their belly with legs or head, stretching of the vertebra, hasty movements, restlessness with repeated lying down and standing up, repeated urination, loose dung or hard dung or constipated bowels and clenching of teeth are the clinical signs.²⁰

Treatment

1. Mix fistful salt, 328 g (0.5sōla) seeds of *Trachyspermu mammi* (L.) Sprague. and 48 g (4 tulamulu) asafoetida in 420 g (1.5 seru) lukewarm water. Initially oral administration of this relieves the colic pain.²⁰
2. Administer soap water enema for the cattle suffering from colic along with constipation.²⁰
3. Orally administering the mixture of 140 g (0.5seru) juice of leaves of *Caesalpinia bonduc* (L.) Roxb. and 48 g (4 tulamulu) asafoetida cures the colic.²⁰
4. Orally administering the mixture of 140 g (0.5seru) expressed juice of leaves of *Caesalpinia bonduc* (L.) Roxb., 24 g (2 tulamulu) asafoetida and 36 g (3 tulamulu) of salt cures the colic.²⁰
5. Prepare a mixture of 12 g (1 tulamulu) dry ginger, 24 g (2 tulamulu) black pepper, 24 g (2 tulamulu) seeds of *Hyoscyamus niger* L., 12 g (1 tulamulu) baking soda and 12 g (1 tulamulu) *Embelia ribes*. Orally administering this mixture once in two days along with 420 g (1.5seru) water cures chronic colic pain.²⁰
6. Orally administer the expressed juice of leaves of *Aristolochia bracteolata* Lam. or water distilled from the seeds of *Trachyspermum ammi* (L.) Sprague. to relieve the pain where the cattle used to kick their belly with legs.²⁰
7. Orally administering the mixture of flowers of *Calotropis procera* R.Br. and dried red chilli cures the disease.²¹
8. Take 12 g (1 tulamulu) each of seeds of *Butea monosperma* (Lam.), seeds of *Hyoscyamus niger* L., fruits of *Terminalia chebula* Retz., fruits of *Terminalia bellerica* Roxb., dry ginger, long pepper, rhizomes of *Picrorhiza kurroa* Royle ex Benth., rhizomes of *Acorus calamus* L., fruits of *Embelia ribes* Burm.f., rhizome of *Saussurea lappa* C.B.CL., roots of *Baliospermum axillare* Blume., leaves of *Vitex negundo* L., leaves of *Azadirachta indica* A. Juss. and root of

Croton tiglium L.. Take 24 g (2 *tulamulu*) each of *Cassia angustifolia* Vahl., root of *Citrullus colocynthis* (L.), *Solanum surattense* Burm. F., bark of *Moringa oleifera* Lam. and seeds of *Trachyspermu mammi* (L.) Sprague. Grind all these ingredients together along with 120 g (10 *tulamulu*) of jaggery. Orally administering this for 3 days cures all types of stomach pains (colics).²¹

9. Orally administer the mixture of 36 g (3 *tulamulu*) of seeds of *Hyoscyamus niger* L. and 140 g (0.5*seru*) fermented rice water.²²
10. Orally administer the mixture of 48 g (4 *tulamulu*) of garlic, 70g (0.25 *seru*) juice of leaves of *Caesalpinia bonduc* (L.) Roxb., 72 g (6 *tulamulu*) seeds of *Trachyspermu mammi* (L.) Sprague. and 140 g (0.5 *seru*) fermented rice water.²²
11. Orally administer the mixture of 140 g (0.5*seru*) water extract of seeds of *Coriandrum sativum* L. and 140 g Castor oil.²²
12. Orally administer the mixture of 140 g (0.5*seru*) juice of leaves of *Caesalpinia bonduc* (L.) Roxb. and 140 g of fermented rice water.²²
13. Orally administer the mixture of 140 g (0.5*seru*) expressed juice of root of *Premna integrifolia* L. or leaves of *Aristolochia bracteolata* Lam. along with 7.394 ml (2 drams) rectified spirit.²²
14. Boil 84 g of green chillies, squeeze gently and take the upper watery portion and add 2 drams (7.394 ml) of rectified spirit (alcohol). Orally administering this mixture cures colic along with diarrhoea.²³
15. In case of cattle suffering from both the colic and distension of abdomen, orally administer 180 g (15 *tulamulu*) to 240 g (20 *tulamulu*) of country made alcohol (spirit) along with 15 g (1.25 *tulamulu*) paste of ginger or 15 g of fruits of *Piper cubeba* L. F. This medicine pacifies the disease within 3-4 hours. Even then if cattle don't get the relief, administer 30g (2.5 *tulamulu*) of opium along with 473 ml (1 pint) castor oil. Administer hot water enema, massage the stomach with camphor oil or mustard oil.²⁴

Discussion and Conclusion

The main objective of the present study is identification, compilation, categorization and finally exploration of the Ayurvedic veterinary treatments for in certain Gastro intestinal diseases. For this Rare Ayurvedic veterinary books written in Telugu language by the traditional Ayurvedic veterinary doctors are selected. The uniqueness in these books is these are not compilations of earlier works. These are the outcome of their clinical practice and research. These books were famous and now they are at edge of damage. Copies of majority of these books are not available and digitized copies are collected from Andhra Pradesh State Archives Hyderabad. All these books are written in regional language and unless a vigorous research it is difficult to translate. As many of the dialectic names usage is vanishing day by day it is the high time to understand and find the relevant equivalents. Many non classical drugs are used by these scholars and known classical Ayurvedic drugs are also used in new indications. Gastro intestinal diseases of cattle like

indigestion, tympanites, grain sickness, fardel bound and abdominal colic are common in cattle and many Ayurvedic remedies mentioned in this article are cheap, easy to get and safe. Translation and scientific exploration of the treasure imbibed in these regional texts definitely acts as a bridge between scientific validations of traditional knowledge. These treatments definitely give leads for new pharmacological, biochemical, experimental and clinical researches.

Finally it can be concluded that methods used by traditional Ayurvedic Veterinary physicians in selecting new drugs, in combining the drugs with classical drugs, using classical drugs in various combinations, in fixing dosages should be studied for further pharmaceutical and collaborative research for their scientific validity. Expanding similar studies to other Telugu books, other regional Ayurvedic veterinary books, classical Sanskrit literature will explore more practices and further improve Ayurvedic database and Ayurvedic pharmacopeia with respect to veterinary medicine.

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