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## Combined alternative medicine approach for the management of pyosalpinx in cattle

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### Abstract

A cattle in her second parity was presented to the Veterinary Clinical Complex of the university with the history of repeat breeding since six months. The owner reported that the animal failed to conceive even after seven matings, including natural as well as artificial insemination. The activity, appetite and general body parameters of the cow were normal. Per-vaginal and per-rectal examination of the animal revealed mild tone in the uterus and ovaries were surrounded by a cord like structure. Ultrasonography confirmed the presence of pyosalpinx associated with mild metritis. The culture and sensitivity testing expressed sensitivity of the pathogen to the chloramphenicol and cefoperazone. In addition to the general allopathic treatment, owner was advised to add homeopathic medicines (Aurum mur nat 200, Pyrogen 200, Echenacea 200, Hydrastis 200 and Silecea 200) and herbs like *Murraya koenigii* and *Leptadenia reticulata* in the treatment regimen. Meanwhile, the cattle started showing turbid vaginal discharge progressively clearing out over a period of one month of treatment. The owner was advised to provide the cow a sexual rest of two months. After two inseminations, the cattle showed non-return to estrus and detected pregnant when examined 2.5 months after mating.

**Keywords:** Alternative medicine, homeopathy, herbal, pyosalpinx, bovine

### Introduction

Buffalo cow infertility and sterility are frequently caused by genital organ abnormalities, which also cause significant financial losses (Azawi, 2006) [3]. The Greek term "pyosalpinx" refers to a pus-filled uterine canal. Pyosalpinx is characterised by diminished infertility or even sterility as a result of a blocked, dilated, pus-filled uterine tube. In Iraqi buffaloes, Azawi observed that the incidence of pyosalpinx and hydrosalpinx was 2.2% and 4.9%, respectively (Azawi and Ali, 2015) [2]. There is a tendency to attribute a unique significance to the correlation between endometritis and hydrosalpinx, and to propose a part in the development of severe inflammation in the endometrium that extends to the utero-tubal junction (Miller and Campbell, 1978; Mastroianni, 1999; Azawi and Ali, 2015) [5, 4, 2]. Typically, an animal with pyometra heals, but the ongoing tubal obstruction prevents it from conceiving (Shivhare *et al.*, 2012; Sharma *et al.*, 2018) [7, 6]. Hence, we attempted to combine the homeopathy and ayurveda with allopathic treatment procedure to increase the chances of recovery. Table 1 depicts the medicinal properties of the homeopathic medicine drugs and herbs used in the study.

### Case history and clinical examination

A cattle in her second parity was presented to the Veterinary Clinical Complex of the university with the history of repeat breeding since six months. The owner reported that the animal failed to conceive even after seven matings, including natural as well as artificial insemination. Per-vaginal and per-rectal examination of the animal revealed mild tone in the uterus and ovaries were surrounded by a cord like structure. Ultrasonography confirmed the presence of pyosalpinx (diameter= 7.8 mm) associated with mild metritis. Turbid vaginal discharge evident on per-vaginal examination. Table 2 and Fig. 1-3 depicts the observations of clinical examination.

**Diagnosis and treatment**

Based on the clinical findings the animal was confirmed suffering from pyosalpinx associated with mild metritis. Table 3 depicts the advised treatment protocol and was designed after consultation with a human homeopathic medicine practitioner.

**Outcome of treatment**

The cattle started showing turbid vaginal discharge progressively clearing out over a period of one month of treatment (Fig. 4). The owner was advised to provide the cow a sexual rest of two months. After two inseminations, the cattle showed non-return to estrus and detected pregnant when examined 2.5 months after mating.

**Table 1:** Medicinal properties of drugs/ herbs used

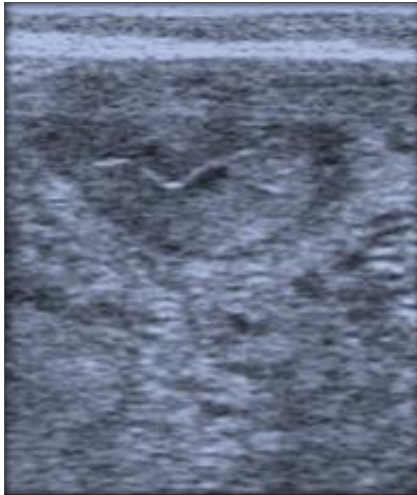
Sr. no.	Drug/ herb	Properties/ uses
1	Aurum Muriaticum Natronatum 200	Useful in catarrhal and glandular affections of female organs and uterine tumours
2	Pyrogenium 200	Useful in the treatment of septic diseases, fever and regulating pulse rate and blood circulation
3	Silecea 200	Acts on the bones, mucous membranes, cartilages, skin, cellular tissues, nerves, glands, lachrymal duct, Eustachian tube, etc. and is known to be a very helpful remedy in treating various conditions like sexual disturbances, Bartholin's cyst, tubercular lymphadenitis and abscess
4	Echenacea 200	Anti-inflammatory and immune booster
5	Hydrastis 200	Antimicrobial, anti-inflammatory, hypolipidemic, hypoglycemic, antioxidant, neuroprotective (anti-Alzheimer's disease), cardioprotective, and gastrointestinal protective
6	<i>Murraya koenigii</i>	Anthelmintics, analgesics, digestives, appetizer and natural nutritional supplement
7	<i>Leptadenia reticulata</i>	Vasodilator, antiabortifacient, antimicrobial, cardiac supplement and antidepressant rejuvenates and nourishes the body nourishes the uterus and help in recovering fertility

**Table 2:** Clinical parameters of the cattle

Sr. no.	Clinical parameter	Observation/ values
1	Temperature	101.7°F
2	Respiration rate	22/ min.
3	Pulse rate	59 beats/ min.
4	Mucus membrane	Normal (pinkish)
5	Superficial lymph nodes	Normal
6	Urine	Normal colour and frequency
7	Faeces	Normal colour and frequency
8	Haemoglobin	12.3 g/dl
9	Total erythrocyte count	$6.6 \times 10^6 / \text{mm}^3$
10	Total Leucocyte count	$9.6 \times 10^3 / \text{mm}^3$
11	Neutrophils (%)	48%
12	Lymphocytes (%)	45%
13	Monocytes (%)	6%
14	Eosinophils (%)	1%
15	Basophils (%)	0%

**Table 3:** Treatment protocol advised

Sr. no.	Drug/ herb	Dose and frequency	Route	Duration
1	Cefoperazone sulbactam	20 mg/ kg b.wt. once daily	Intramuscular	7 days
2	Chloramphenicol	25 mg/ kg b.wt. once daily	Intramuscular	7 days
3	Ascorbic acid	25 ml once daily	Intramuscular	7 days
4	Aurum Muriaticum Natronatum 200	2 drops once every 3 days	Per-os	15 days
5	Pyrogenium 200	Two drops once daily morning	Per-os	15 days
6	Silecea 200	Two drops once daily evening	Per-os	15 days
7	Echenacea 200	Two drops once daily morning	Per-os	15 days
8	Hydrastis 200	Two drops once daily evening	Per-os	15 days
9	<i>Murraya koenigii</i>	30 gm twice daily	Per-os	30 days
10	<i>Leptadenia reticulata</i>	10 gm twice daily	Per-os	30 days



**Fig 1:** Ultrasonographic examination of uterine horn



**Fig 2:** Ultrasonographic examination of fallopian tubes

5-11857 BACTERIOLOGICAL EXAMINATION REPORT

Lab No. 385CM Date 17.5.22 Receipt No. 306387  
 Owner's Name & Address Sh. Suresh Ku. VPO Bodiya Bishnaya.

Animal Species Cow Breed ND Sex / Age 6yr.

Sample Received Vaginal swab.  
 Result Streptococci + E.coli.

**\*Antimicrobial Sensitivity**

Nitrofurantion	Tobramycin R	Ampicillin R
Enrofloxacin R	Septan	Gentamicin R
Cephalexin R	Ciprofloxacin R	Cephotaxime S
Clindamycin	Ceftazidime	Cefopime
Penicillin G R	Oxyetracycline R	Neomycin R
Lincomycin	Erythromycin	Amikacin R
Carbenicillin R	Norfloxacin R	Cefquinome
Ofloxacin	Cefuroxime	Ceftiofur
Streptomycin R	Chloramphenicol S	Cloxacillin R
Amoxiclav	Kanamycin R	Colistin
Amoxicillin R	Ceftriaxone R	Cefoperazone S
Vancomycin	Moxifloxacin R	Azithromycin
Gatifloxacin	Levofloxacin R	Marbofloxacin
Ceftriaxone tazobactam	Ceftriaxone subactum	Cefoperazone subactum

\* (S) Sensitive, (I) Intermediate, (R) Resistant

Scientist

**Fig 3:** Culture and Antibiotic sensitivity test



**Fig 4:** Sequential changes in vaginal discharge during the course of treatment.

**Conclusion**

Combined therapeutic approaches to treat conditions like pyosalpinx give better results than the allopathic medicine protocols alone. But validation of such treatments need to be done on a larger sample size and comparative evaluation is also necessary before giving any final recommendation.

**Additional Contribution**

We would like to devote our sincere thanks and regards to Dr. Chhaya Lamba for her timely guidance.

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