



Saving Kittens and Cats with Limited Resources

Goodluck Gaudence, DVM

Paka Clinic Zanzibar

National Kitten Coalition Veterinary Conference

19 September 2021

The Zanzibar archipelago in Eastern Tanzania, East Africa is blessed to have a high number of community cats. Stone Town, a UNESCO World Heritage site located in the Urban West region of Zanzibar, has a high number of street wanderer cats. These cats live in colonies, scavenging for food on dumping sites - areas where people sell urojo (Zanzibari street food) and in open areas where people get food in the evening, like Darajani and Forodhani. Occasionally, community cats are fed home cooked leftovers, which is locally prepared food by mixing bread, rice and sardines and soup. They are fed this food by community cat caretakers in Stone Town. These street walker cats starve because of inadequate food in the month of Ramadhan, when Muslims fast. This happens once a year when hotels and restaurants are closed for this Holy Islamic month. Stray cats have to walk from street to street to find dumped food. Despite not having access to adequate food, Stone Town cats still produce an average of four kittens in a litter, three litters a year.

About Paka Clinic

Paka Clinic began in 2019. Our aim is to reach a manageable number of healthy street cats through our spay/neuter programme, monitoring the health of colonies and vaccinating against common infectious diseases. We also offer free veterinary services for local communities, to ensure Zanzibar's high poverty rate is not a barrier to accessing veterinary care. We are entirely donor funded and we provide our services free of charge to the Zanzibari community and the cats of Stone Town.

Managing Stone Town's Community Cats

The term community cats describes cats living outdoors without an owner, roaming freely. These include kittens, adults, sick, healthy, neutered, unneutered, friendly or feral cats. There are also a number of outdoor, free roaming cats who are not community cats (those who are owned by someone).

Community Cat Caretakers

Zanzibar is an Islamic island and for many people affection for cats is considered to be part of their faith. There are many cat caretakers in Stone Town. Caretakers provide food, monitor the health and wellbeing of the cats, and identify cats for sterilization. Most caretakers are poor, using what little money they have to buy sardines and cook low priced rice to make sure their

community cats are fed at least once a day. Paka Clinic supports the work done by caretakers. We provide free veterinary services and sterilization to community cats, and often donate dry food to make sure cats get a sufficient diet to support the work done by caretakers who do it out of love.

Trap- Neuter-Return-Monitor (TNRM)

To improve the health and animal welfare in general of Stone Town's community cats, we operate a Trap- Neuter-Return-Monitor Program (TNRM). TNRM involves humanely trapping community cats, spaying\neutering and vaccinating against rabies, and returning them to their location. In this method, the cat caretaker identifies and traps the cats.

Selective Female TNRM

For the purpose of stabilizing the community cat population in Stone Town with limited resources, females are targeted to maximise the efficiency of the TNRM program. Females are trapped or caught by hand and taken to the Clinic for spaying. In some feeding areas where caretakers are present, they report on the presence of new intact females in their area and the Paka Clinic teams make an appointment for trapping/catching the cat. Some caretakers bring cats directly to the Clinic for spaying. This way, we have managed the number of cats in several different colonies such as Forodhani and Malindi.

The target is to spay/neuter all the cats in a colony and monitor for any new intact cats. New kittens, fighting and spraying, and nuisance yowling are markedly eliminated. Cats will have enough space to thrive and gain weight, leading to less roaming and reducing their risk of being hit by cars, bicycles, or motorcycles.

Ear-Tipping in TNRM

Ear-tipping is a humane, safe surgical removal of the top quarter inch of the left or right ear. This is an important and widely accepted means of marking a community cat after being spayed/neutered. Ear tipping is done purposely to prevent recatching/trapping and performing unnecessary surgery on a sterilized cat. If you walk in Stone Town, you will find many cats with the left ear tipped.

Morning Paka Patrol

The Paka Clinic team performs a morning cat patrol from Monday to Friday to provide veterinary service to community cats in need. Ivermectin 200 - 400µg/kg subcut is used to treat cats with ectoparasite infestation. Kittens and cats who need more time to recover are taken to the Clinic. After recovery, we take them back to their colonies. Paka Clinic also provides Feline Rhinotracheitis-Calici-Panleukopenia Vaccination (FVRCP) to community cats who have a caretaker, so that they get all the required shots on time.

Evening Paka Patrol

Paka Clinic performs an evening patrol mainly to trap community cats who don't have a caretaker. We also return any recovered cats to their colonies as the evening is cooler and less noisy.

Orphaned Kittens

Kitten formula is the best option to use when a kitten has lost his mother, or when there is no mother a kitten can nurse on. Appropriate milk replacer (kitten formula) provides essential nutrients including milk sugar (lactose), which is digested by lactase produced by the kitten's digestive system. Lactose from cows' milk is indigestible and can lead to lactose induced diarrhoea. Adult cats have the ability to ingest 6g (130ml) of lactose sugar in a day without causing diarrhoea. In Tanzania, commercial kitten milk replacer is not available. We rely on donations from people travelling to Zanzibar, but we are often forced to use goats' milk or Nestle Lactogen Infant Formula with 6.3g of lactose per 100ml.

Hot/warm water pads are used to keep the environment warm and prevent hypothermia in sick and neonatal kittens. The hot water is changed every 4-5 hours to keep the kitten warm. The average environmental temperature in Zanzibar ranges from 18-33C (32-92F).

Common Feline Diseases in Zanzibar

Feline Viral Respiratory Diseases

In Zanzibar, there a number of common diseases caused by viral infections that affect the respiratory system in general. Disease is common in large groups of cats such as cat breeding sites, boarding catteries, rescue shelters and community cat colonies. Feline viral respiratory disease has two main causes:

1. Feline Herpes virus 1 (FHV-1) leading to Feline Rhinotracheitis infection and
2. Feline Calicivirus (FCV)

In Zanzibar, FCV appears to be more common in kittens and adult cats, however FHV-1 induces more severe disease compared to FCV. The prevalence is as high as 90% in some colonies.

During rainy season, many cats suffer mixed infection of FHV-1 and FCV. Both of these viruses are highly successful pathogens affecting not only community cats but also indoor cats despite vaccination.

Feline Herpes Virus 1 Infection (FHV-1)

FHV-1 causes acute rhinitis, causing sneezing, unilateral or bilateral conjunctivitis accompanied by fever, anorexia, depression and sometimes hypersalivation. The disease incubation period is 2-6 days depending on the infective dose of pathogens and the cat's immunity. As the disease progresses, oculonasal discharges are observed, sometimes with coughing. In some cases, only dyspnea is present as the observed clinical sign.

Feline Calicivirus Infection

Infection is typically milder than FHV-1, however some strains cause severe disease in cats. Oral ulcers are a frequent sign and may occur as the only clinical sign. Sneezing, conjunctivitis, high fever, lack of appetite and general malaise also occur. Some strains show pyrexia and lameness, which may not involve oral or respiratory signs. In some clinical cases, interstitial pneumonia

characterized by dyspnea is the main feature. Cats with virulent systemic disease show ulcerative lesions on the limbs and head, pyrexia, cutaneous edema and sometimes jaundice.

Diagnosis for Feline Respiratory Viral Disease

At Paka Clinic, diagnosis of the above viral diseases which cause upper respiratory infections (URIs) is mainly based on the epidemiology of the disease and clinical signs. Many clinical cases attended at Paka Clinic show mixed Infection between FCV and FHV-1. This mixed infection appears to be the leading cause of blindness in many neonatal kittens and those older than eight weeks, due to late treatment.

Disease Management

Treatment

Paka Clinic uses Aciclovir eye ointment, which is an extra label drug. The ointment is applied 3-4 times a day for 3-4 days, and is effective for kittens and adult cats with FCV infection. The medicine is less effective for treatment of FHV infection.

A broad-spectrum antibiotic is used to prevent secondary bacterial infection. We normally use Penstrep (Procaine Penicillin G) 40000 Units/kg and 40mg of Dihydrostreptomycin Sulphate per kg. This drug is given subcutaneous for 3-4 days.

For severe conjunctivitis caused by FHV-1 infection, a mixture of 0.1ml of Penstrep and 0.1ml of Dexamethasone Sodium Phosphate is given subconjunctival. The mixture is given once, and can relieve the swollen eye in 24 hours. This injection is painful and therefore sedation is recommended. Some literatures do contraindicate the use of anti-inflammatory drugs because they retard healing.

Supportive therapy

In many clinical cases, fluid therapy is necessary. Depending on the extent of dehydration, fluid therapy is given either by IV or subcut. A multivitamin, Kyro B, 0.5 to 2ml is given subcut depending on the size of the cat.

Nursing

For kittens, a warming pad is provided in the recovering cage. The water is changed every 4-5 hours to maintain warmth. Kittens are fed strongly flavoured canned food with different flavours, and boiled sardines.

Feline Panleukopenia

A highly infectious, contagious and ubiquitous disease caused by feline parvovirus. It causes a high mortality rate in community kittens.

Clinical Signs

The disease varies in severity from subclinical, mild transient fever and leukopenia to a severe disease. Young kittens show severe syndrome. The incubation period is between 2-10 days. Clinical signs include lethargy, fever, anorexia, thirst but refusing to drink, and vomiting.

Diarrhoea is less common, particularly in early stages. Palpation of the abdomen reveals painful fluid-and-gas-filled intestines. In the course of 2-3 days, symptoms vary including fever, profuse watery diarrhoea or dysentery, severe dehydration and electrolyte imbalance. Intestinal bleeding may lead to anaemia. As the disease progresses to subnormal temperature, prognosis is poor. The mortality rate varies from 25% to 75%. Fatalities are due to overwhelming bacterial infection, dehydration, and electrolyte imbalance.

Diagnosis

Paka Clinic performs diagnosis by relying on clinical diagnosis, and history of vaccination where possible.

Treatment

Treatment for Feline panleukopenia is usually supportive, while the cat's own immunity overcomes the infection. Supportive treatment is aimed at preventing secondary bacterial infection, combating dehydration and restoring electrolyte balance. Treatment therefore consists of the broad-spectrum antibiotic amoxicillin and clavulanic acid oral (extra label drug) 20mg/kg once a day for 6-7 days. Subcutaneous or intravenous fluids are also given at a rate of 5% DNS, NS, Lactated Ringer's Solution. An anti-emetic, Ondansetron HCl (extra label drug) 1mg/kg IM twice a day helps to stop vomiting. Vitamin supplements, Kyro B 0.1 to 2ml, are also given. Good nursing care is provided.

Feline Ataxia Syndrome

This is a syndrome seen in young kittens. The virus infects and replicates in the placental cells of the mother cat and then infects the fetus in the placenta. Infection during the middle third of gestation to immediate post-natal can lead to cerebellar hypoplasia. It is histologically seen as a marked reduction in the number of granular and Purkinje cells of cerebellum. The retina may also be affected, but this is not usually important clinically. Feline ataxia is present at birth but symptoms do not usually present until walking age (3 weeks). Only some of the litter is affected. Affected cats show symmetrical ataxia, a characteristic hypermetria, incoordination, and often intention tremors. Signs persist for life, but the animal may compensate and thrive. It's uncommon in Zanzibar because of the high mortality in affected community kittens.

Contact

Email: pakaclinic@gmail.com

Facebook: @pakacliniczanzibar

Instagram: @paka_clinic

References

Beynen AC. Milk for Cats. Creature Companion 2017; May: 40-41

Dickinson CD, Scott PP. Nutrition of the cat. 1. A practical stock diet supporting growth and reproduction. Br J Nutr 1956; 10: 304-311.

Gaskell RM, Bennet M, Dunn JK (ed). Textbook of Small Animal Medicine: Infectious Diseases of the cat.2000;959-984

Kortis B. Implementing Trap-Neuter-Return Program:Fieldwork;35-44

Plumb DC. Veterinary drug handbook eight edition 2015:Amoxycillin/Clavulanate;80

Plumb DC. Veterinary drug handbook eight edition 2015:Penicillin G;1023

Plumb DC. Veterinary drug handbook eight edition 2015:Ondansetron HCl;1071

Radford AD, Beynen AC. Home-prepared pet foods. Creature Companion 2015; May: 52-53.
Addie D,Belak S, Boucraut-Baralon C, Egberrink H, Frymus T, Gruffydd-Jones T, Hartmann K, Hosie MJ,Lloret A, Lutz H, Marsilio F, Pennisi MG,Thiry E, Truyen U and Horzinek MC. Feline Calicivirus Infection: ABCD Guidelines on Prevention and Management;Journal of Feline Medicine and Surgery (2009) 11, 556-564

Thiry E, Addie D, Belak S, Boucraut-Baralon C, Egberrink H, Frymus T, Gruffydd-Jones T, Hartmann K, Hosie MJ, Lloret A, Lutz H, Marsilio F, Pennisi MG, Radford AD, Truyen U and Horzinek MC. Feline Herpesvirus Infection: ABCD guidelines on prevention and management; Journal of Feline Medicine and surgery (2009) 11, 547-555