Case Report

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Feline Leukemia in Iraq: A Case Report

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Abstract

Feline leukemia virus is a highly infectious virus among cats, spread primarily via saliva, mutual grooming, and aggressive behaviors. This virus causes disorders of hematopoiesis, immune suppression, anemia lymphomas, and leukemias. Blood samples were obtained from a client owned 4 years male cat presented to a veterinary private clinic in Baghdad governorate for checking and tested by using the Anigen FIV/FeLV rapid kits (manufactured by Bionote, validated from OIE reference laboratories, republic of Korea) to detect FeLV antigen (94% sensitivity of FeLV Ag, 99% specificity) and by blood sample analysis. The result was positive for the leukemic antigen. This is the first confirmatory diagnosis of FeLV in Iraq.

Keywords: Feline leukemia virus, FeLV, Feline sarcoma virus, Retrovirus, Rapid kit.

Introduction

A 4-year-old non-castrated male Shirazi cat (living in a group of household cats that have access to outdoors and get the infection through fighting or mating with infected cats), was referred to a private veterinary clinic in Baghdad for medical examination. The cat had a history of 1-week of anorexia. The clinical examination revealed 37°c body temperature, signs of rough hair coat, dehydration and signs of fighting as shown in Figure (1). A blood sample and serum were collected for blood analysis (complete blood count) and for the detection of feline leukemia antigen respectively. Taking into consideration that there is no previous history of vaccination against the virus

A blood sample was tested by the commercial Anigen FIV/FeLV rapid kits (manufactured by bionote, validated from OIE reference

laboratories, republic of Korea) to detect FeLV Antigen (94% sensitivity of FeLV Ag, 99% specificity). Immunochromatographic tests are based on the immune-complex formation of antigens with antibodies, figure (2). The letters "T" and "C" on the device's surface represent the test and control lines, respectively. Before loading samples, neither the T nor the C lines in the result window are visible. One drop (about 10 µl of EDTA-anticoagulated whole blood sample was added by a capillary tube (disposable) to the sample hole. Then after, two drops (roughly 60 µl) of the assay diluent were added by assay diluent bottle to the sample hole. The control band, which indicates that the test is properly running, is when appearing of the color band in the left side of the result window. The test result is displayed on the right side of the result window. A negative result is indicated by one band on the FIV strip; a positive result is indicated by two bands (T and C) on the FeLV strip. Finally, test results were interpreted at 10 minutes. The result of the rapid test for the leukemic antigen was positive as shown in Figure (3).

CBC was performed by using a hematology analyzer (GeteinAnimal Medical, BHA-5000Vet). The blood analysis was all normal except for hemoglobin (3.4 g/dl), red blood cells (2.05 1012/l), PLT (19 109/l0). As compared to the normal Iraqi blood picture of cats (1).

Figure 1: Positive FeLV Shirazi cat suffering from dehydration, weight loss and poor coat condition.

Figure 2: Anigen FIV/FeLV rapid kit

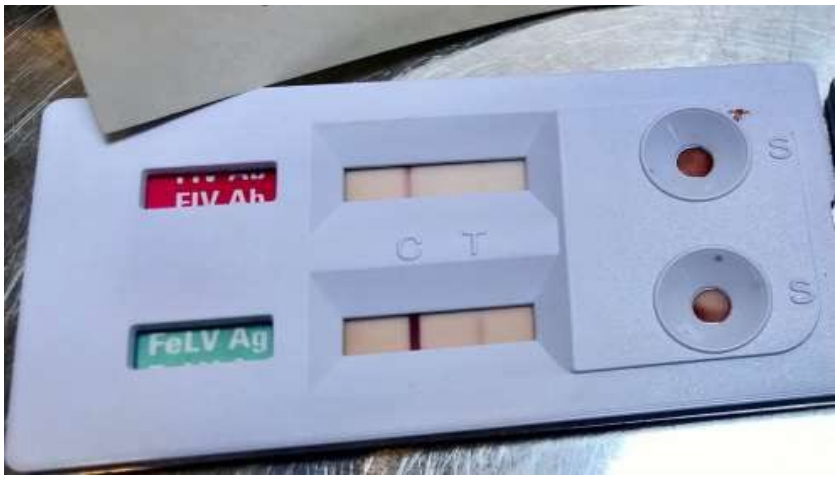

Figure 3: positive FeLV rapid test kit (two bands (T and C) on the FeLV strip).

Discussion

Feline leukemia virus is the most common pathogenic infectious disease responsible for high mortality rates for domestic cats, particularly before the development of effective vaccines in the 1980s (2). This virus affects all breeds of cats, domestic and wild. Transmitted primarily by saliva, and through instruments, fomites, contaminated needles, and blood transfusion. It is also commonly spread vertically from infected queens to their kittens (3). It attacks and compromises the

cat's immune system and can cause an immuno-suppressive syndrome, cancer, and other diseases. Sometimes the feline leukemia virus can lay dormant for years, while other viruses can attack swiftly.

In this study, Anigen Rapid FIV Ab/FeLV Ag Test Kit was used to identify feline leukemia virus positive infections. It is one of the most infield practice and laboratory used tests, a chromatographic immunoassay for the qualitative detection of Feline Leukemia virus antigen in feline serum, plasma or whole blood.

According to (3, 4) there is more than one form of the disease's clinical signs. The clinical signs of the affected case along with the positive confirmative test mostly coincides with the lymphoma form.

Conclusion

This case represents the first documented report of feline leukemia virus (FeLV) infection in Iraq and highlights the clinical presentation and diagnosis of the disease. It emphasizes the need for increased awareness among veterinarians and pet owners about the prevalence of FeLV, given the lack of routine screening and vaccination programs in Iraq. This case underscores the potential for underdiagnosis and silent transmission among cats especially since cat populations are not controlled.

Conflicts of interest

The authors declare that there is no conflict of interest.

Ethical Clearance

This work is approved by The Research Ethical Committee.

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فيروس ابيضاض الدم السنوري في العراق: تقرير حالة

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الخلاصة

فيروس ابيضاض الدم السنوري هو فيروس شديد العدوى بين القطط، وينتشر بشكل رئيسي عن طريق اللعاب، الاستمالة المتبادلة والسلوكيات العدوانية. يسبب هذا الفيروس اضطرابات في تكوين الدم. تم الحصول على عينات دم من قط ذكر عمره 4 سنوات، مملوك لاحد العملاء، عرض على عيادة بيطرية خاصة في محافظة بغداد للفحص وتم فحص هذه العينة بأستخدام اختبار التشخيص السريع Anigen FIV/FeLV rapid kits (من انتاج شركة Bionoteوالمعتمدة من مختبرات المنظمة العالمية لصحة الحيوان، جمهورية كوريا) للكشف عن مستضد فيروس ابيضاض الدم (حساسية 94% لمستضد فيروس ابيضاض الدم لدى القطط وخصوصية 99%)، ومن خلال تحليل عينة الدم كانت النتيجة إيجابية لمستضد ابيضاض الدم. هذا هو اول تشخيص مؤكد لفيروس ابيضاض الدم السنوري في العراق.

الكلمات المفتاحية: فيروس ابيضاض الدم السنوري، FeLV، فيروس السار كوما السنوري، الفيروس القهقري، الاختبار السريع.