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Clinical Article

SUCCESSFUL THERAPEUTIC MANAGEMENT OF JAUNDICE IN CAT

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SUMMARY

A 1-year laterally recumbent male Persian cat weighing 7 kg was presented at Department of Teaching Veterinary Clinical Complex, Veterinary College, Parel, Mumbai, Maharashtra with history of anorexia, decrease water intake, yellow colored urine, incomplete deworming and vaccination. On clinical examination cat was severely dehydrated and mucus membrane were deep yellow. Haemato-biochemical examination revealed neutrophilic leucocytosis, normal platelet counts higher liver specific enzymes (AST and ALT). Total bilirubin, direct and indirect bilirubin values were increased, suggestive of hepatic jaundice. The cat was admitted and treated for 7 days by administering antibiotic Amoxicillin and Sulbactum @ 15mg/kg body weight along with parenteral supportive treatment including multivitamins.

Keywords: Acetyl cysteine, Bilirubin, Cat, Jaundice

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The differentials for hyperbilirubinemia should be organized by location: prehepatic, hepatic and post hepatic. While, in cats, it is common to find concurrent disease processes, starting from this foundation is the first step toward an effective and efficient diagnostic workup of icteric cats (Webb, 2016). Jaundice, or icterus, refers to the yellow discoloration of the mucous membranes, sclera, and skin, and it represents a clinical manifestation of hyperbilirubinaemia (Sherding, 2000). Hyperbilirubinemia in hepatic disease is caused by decreased uptake of unconjugated bilirubin and/or decreased conjugation by the hepatocytes (Sevelius, 1995) therefore, hyperbilirubinemia is usually associated with a severely impaired hepatic function.

The present study was conducted in the department of teaching veterinary clinical complex (TVCC), Mumbai Veterinary College, Parel, Mumbai.

A one year old male Persian cat weighing 7 kg was presented, with a history of deep yellow colour mucus membrane, yellow colored urine, fever, anorexia and decreased water intake. In addition, there was also a history of incomplete deworming and vaccination. Cat was severely dehydrated and was lying in lateral recumbency at the time of presentation.

On clinical examination, the cat was having body temperature of 104.2 ºF, icteric mucous membrane with increased respiration rate. Blood samples were collected in EDTA containing vials for complete blood count (CBC) and serum analysis was done using Fully Automated Random Access Clinical Chemistry Analyzer (EM 200 Erba Mannheim- Germany) for estimation of different biochemical parameters using kits procured from Transasia Biomedical Limited.

Hematological examination revealed neutrophilic leucocytosis on day 1, 3 and 7 (Table 1). The platelet count was in the normal range with drastically increased liver specific enzymes (AST and ALT). Total bilirubin, direct and indirect bilirubin values were increased significantly, suggestive of toxic hepatitis. Similar findings by Marks et al. (2003) were reported laboratory alterations associated with lymphocytic portal hepatitis include normal to variably increased serum bilirubin, alanine amino-transferase and serum alkaline phosphatase.

The cat was admitted at The Bai Sakarbai Dinshaw Petit Hospital for Animals and treated for 7 days by administering antibiotic Amoxicillin and Sulbactum (Virbac Pharma) @ 15mg/kg body weight along with parenteral supportive treatment including inj. Acetylcysteine (Mucomix, Samrath Pharma) @ 70 mg Q 24 H, multivitamins along with oral medication of Tab. Ursodeoxycholic Acid (Udiliv, Abbott Pharma) @ 10mg Q 24 H and Syp. Liv-vitol (Health-Care Pharma).

Similar findings by Harvey *et al.* (2007) reported that Ursodeoxycholic acid (5-15 mg/kg Q 24 H) is an adjunct therapy that has been used in the successful treatment of bilirubin cholelithiasis, EHBO, and a Somali cat with PK deficiency. Park *et al.* (2012) reported that after administration of N-acetylcysteine (Sandoz, Holzkirchen, Germany) 140 mg/kg IV initial dose, followed by 70 mg/kg IV q8h and S-adenosylmethionine (Zentonil Plus; Vétoquinol) 200 mg PO q24h were showed marked improvement in hepatic failure by diazepam administration in a cat.

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Fig. 1. Severe icteric skin

Fig.2. Day 1 (marked icteric mucus membrane)

Fig. 3. Day 7 (Improvement in icteric condition)

Table 1. Haemato-biochemical findings of cat before and after treatment

		Haemato-biochemical parameters				
Sr. No.	Parameter	Day 1	Day 3	Day 7	Day 12	Reference Range
1.	Hb (g %)	10.1	10.9	11	10.6	9.5 - 15.0 gm %
2.	TEC (million/cmm)	6.06	6.58	6.61	6.39	6.0 - 10.0 million/cmm
3.	PCV (%)	32.1	34.5	34.53	30.98	29.0 - 45 %
7.	TLC (thousand/cmm)	23.9	28.4	21.2	18.3	5.5 -19.5 x 10^3/cmm
8.	Neutrophils (%)	80	82	79	56	35 - 75 %
9.	Lymphocyte (%)	13	14	15	40	20 - 55 %
10.	Monocyte (%)	01	01	01	01	01 - 04 %
11.	Eosinophil (%)	06	03	02	03	02 - 12 %
13.	Platelets(thousand/cmm)	278000	305000	325300	297000	150000 - 600000/cmm
14.	Total bilirubin (mg/dl)	41.7	26.6	11.6	4.7	0 - 0.4 mg/dl
15.	Direct bilirubin (mg/dl)	22.9	17.4	4.8	1.9	0.0 - 0.1 mg/dl
16.	Indirect bilirubin (mg/dl)	18.80	9.20	6.80	2.80	0 - 0.3 mg/dl
17.	AST (IU/L)	287	211	205	58	05 - 55 IU/L
18.	ALT (IU/L)	441	392	263	174	28 - 76 IU/L
19.	Albumin (g/dl)	2.4	2.3	2.3	2.2	2.4 - 4.1 g/dl
20.	Globulin (g/dl)	4.90	5.00	3.80	3.40	3.4 - 5.2 g/dl
21.	Total Protein (g/dl)	7.3	7.3	6.1	5.6	5.9 - 8.5 g/dl
22.	Blood Urea Nitrogen	34	31	25.1	20.1	15 - 34 mg/dl
23.	Serum creatinine (mg %)	0.8	0.9	1.3	1.2	0.8 - 2.3 mg/dl

Cat started showing visible recovery after three days and was recovered partial after twelve days. Re-examination of blood after twelve days for hematobiochemical parameters showed marked improvement with reduced liver specific enzymes as well as total and direct bilirubin. Case was discharged and kept on oral medication at home.

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