

Modern therapeutic agents in veterinary practice

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Antibiotics

Cephalosporins

Type	Species	Dose (mg/Kg)	Route	Interval(Hrs)
Cephadroxil	Dog & Cat	22	PO	8-12
Cephalexin	Dog & Cat	22	PO	8
Cephapirin	Dog & Cat	20-30	i/m,i/v	8-12
Cephalothin	Cattle	55	SC	6
	Dog & Cat	10-30	i/m,iv,sc	6-8
Cephazoline	Dog & Cat	20-35	im,iv,sc	6-8
Cephoxitin	Dog & Cat	30	iv,	8
Cephotaxime	Dog & Cat	25-50	im,iv,sc	8
	Goat	50	iv	12
Ceftiofur	Cattle	1	im	24

Side effects and adverse reactions of Cephalosporins

1. Oral - vomiting, diarrhoea. So administer along with food.
2. Nephropathy- especially if used along with aminoglycosides
3. Can give false positive reaction for glycosurea and protenurea
4. Coagulation disorders may occur

Tetracyclins

Doxycycline

Dose- Pigs 20 mg.Kg.iv.

Calves (not with developed rumen)-5 mg. /kg.iv.

(with developed rumen) 20mg./kg iv.

Cats: 5mg./kg.iv.

Dogs: 5mg./kg.iv

Goats: 5mg./kg.iv

Have higher tissue penetration and microbial potency. Prolonged plasma half life. Excreted through faeces. So can be used in renal failure

Minocycline

Have higher tissue penetration especially in bile, brain CSF, Upper Respiratory tract., lungs, skin, reproductive organs & milk.

Dose: Dog 5mg/kg,iv

Sheep:2.2mg/kg.iv.

Chloramphenicols

Thiamphenicol

Can be used in food-producing animals safely because of unchanged renal excretion in large volumes of tissue residues are less. But activity & potency are lesser than chloramphenicols due to low lipid solubility. Produce reversible bone marrow suppression as chloramphenicols but aplastic anaemia not reported.

Florfenicol

Less occurrence of bacterial resistance than other two. Has wide distribution including kidney \, urine, bile & small intestine, but less penetration in CSF, brain, and eye. Attain high concentration in milk after im/iv injection. Can be used in food producing animals.

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Macrolides

Erythromycin

Well absorbed from GI tract. im/sc are painful. So better given as PO

Dose: Cow 12.5 mg/ kg. iv or PO

Calves 15-30mg./ kg. as im, ivm sc or PO

Dog 10mg/kg. iv,PO

Side effects- Nausea, Vomiting & skin reactions. Effective primarily against g + ve bacteria

useful in penicillin contra indicated animals. Used in bacterial pyoderma.

Tylosin

Similar to erythromycin

Dose: Dog 10mg/kg iv.

Ewe 20mg/kg iv.

Goat 15mg/kg

Cow 10-20 mg/kg.

Uses : To treat pink eye in cattle, respiratory tract infection, swine dysentery, pleuropneumonia. Also used as a safe feed additive

Tilmicosin

Calves- 10-20 mg/kg as s/c

Used as prophylaxis & treatment of calf pneumonia

Lincosamides

Lincomycin

Used for treating gram positive aerobic anaerobic bacteria. Used in combination with spectinomycin(as 50 mg. lincomycin + 100mg. spectinomycin per ml) @1ml /10kg. body wt. as im. It is better than strepto-penicillin

Clindamycin

20 times more potent than lincomycin

Dose:

Dog 11mg/kg BID orally

150 mg qid im for toxoplasma in dogs & cats.

Aminoglycosides

Drug	Species	Dose	Interval (hours)	Route
Gentamicin	Dog:	2-4mg/kg	q6h	iv
	Cat:	3mg/kg	q8h	iv
	Cows	5mg/kg	q8h	iv or im
	Poultry	2mg/kg	q12h	im
Kanamycin	Dogs:	10 mg/kg	q6-8h	im or iv
Apramycin	Calves:	20 mg/kg	q 12h	im
Amikacin	Cat:	10mg/kg	q8h	iv or im
Tobramycin	Dogs:	10mg/kg	q8h	im or sc
	Cats:	3mg/kg		iv.

Quinolones

Norfloxacine

Dose: 5mg/kg iv
11-22 mg/kg PO
Chicken: 8mg/kg PO
Side effects: Arthropathy, anorexia, vomiting, diarrhoea.

Enrofloxacin

Dose:
Dog: 2.75 -11mg/kg PO
Calves: 5mg/kg PO & 2.5 mg/kg im
Chicken: 5mg/kg PO & iv
Pi glets 2.5mg/kg im

Ciprofloxacin

Dose
Dog: 10-20 mg/kg PO
Calves: 2-8mg/kg iv, 3mg/kg PO
Pigs: 3mg/kg iv or PO

Danofloxacin

Dose:
Cattle: 1.25 mg/kg im or sc
Calves: 5mg/kg im or sc
Swine : 5mg/kg

Sparfloxacin & Temafloxacin

No much work is done in veterinary practice.

Antiviral agents

Drug	Route	Dose	Interval(hrs)
Iodoxuridine	ocular/topical	1 drop	5-6
Trifluridin	Topical	1drop	2
Vidasabine	iv	10-30mg/kg	4-8
Ribavirin	inhalation		18
Acyclovir	iv	250 - 500mg/m ²	8
Garceclovir	iv	2-5	
Zidovidine	PO	10-20mg/kg	
Fascurnet	iv	60mg/kg	8
Amartadine	PO	100-200(human)	24
Rimantadine	PO	200-300mg(human)	24
Interferonixiza	sc,im	3X10 ⁶ ut	24

ANTIFUNGAL AGENTS

Gresiofulvin

Dose:
15-25 mg/kg oral for 3-4 weeks.

Nystatin

Cats: Dose: 100000 units qid

Ketoconazole

Dose: Cat:5-10 mg/kg orally
Dog:10-15 mg/kg

Amphotericin B

Dose:

Cat: 0.15-0.25mg/kgiv

Dog: 0.5mg/kg

Itraconazole

Dose:

Dog & Cat: 5mg/kg iv

Fluconazole

Dose:

Dog: 5-10 mg/kg

Cat: 5-15 mg/kg.

Anti-neoplastic drugs

Name	Concentration	Std.dose	Route	Comments
Asparaginase	2000 u/ml	400u/kg (10000 u.only)	sc	Coagulation effects,Biochemical
Bleomycin so ₄	3 u/ml	10 u/m ²	sc	hepatotoxicity
Carboplastin	10mg/ml	300mg/m ²	iv	Caution if renal or pulmonary
Carmistine	3.3mg/ml	50mg/m ²	iv	Caution if renal diseases
Cisplatin	1mg/ml	60mg/m ²	iv	Delayed myelosuppression
Cyclophosphamide	Tablets	50mg/m ² (4days / week)	iv PO.	Caution in cats
Cytarabin	20mg/ml	100mg/m ²	iv,sc	Bone marrow suppression
Dacarbazine	50mg/ml 10mg/ml	q3 week 1000mg/m ²	iv	Avoid rapid iv
Dactinomycin	0.45mg/ml	q3 week 0.6mg/m ²	iv	Bone marrow suppression
Doxorubi	2mg/ml	30mg/m ² (dog) 20mg (cat)	iv	Avoid extra vascularisation
Fluorouracil	50mg/ml	200mg/m ²	iv	Leucopenia
Vinblastin	1mg/ml	2mg/m ²	iv	bone marrow suppression
Vincristine	1mg/ml	0.5.mg/m ²	iv	leucopenia
				Neurotoxicity

Gastro - intestinal disorders

Antemetics

Cyclizine HCl	Dog 25-100 mg PO
Dicyclomine HCl	Dog: 5-10 mg PO
Diphenhydramine HCl	Dog: 2-5mg/kg PO
Domperidone	Dog:0.1-0.5 mg/kg im
Meclizine	Dog: 2-10 mg/kg. upto 10kg. 2-6 mg/kg over 10 kg.
Metoclopramide	Dog: 0.1-0.3 mg/kg. orally Cat: 0.02mg/kg/hr iv

Purgatives

Diocly/ Sodium Sulfosuccinate (Docusate)

Dog:	15-120 mg
Cats:	15-30 mg
Cattle:	5-15 g

Methycellulose

Dogs:	0.5-5gm
Cats:	0.5-1gm

Antidiarrhoeals

Diphenoxylate HCl
Sulphasalazine

Dogs & Cats: 0.5-1mg/kg every 8-12hrs
Dog: 15-20 mg/kg, 8hrs for 3-4 weeks

Appete promoting & Digestants

Periactin

Cats: 1mg/cat PO

Pepsin

Dog: 0.2-1gm Cat: 100-300mg Calf-4g

Pancreatin

Dogs: 0.5- 6g Cat: 0.5-2g

Dehydrocholic acid

Dog: 100mg/kg

Anti ulcer drugs

Cimetidine

Dog: 5-10 mg/kg 6-8 hrs PO
10mg/kg 6hrs slow iv

Ranitidine

0.5mg/kg, 12hrs PO

Omeprazole

Dose: 0.7mg/kg PO q 24 hrs

Misoprostol

Dose: 1-3ug/kg PO q 12 hr.

GLUCOCORTICOIDS

Hydrocortisone

Dose: Dogs & Cats: Shock : 150mg/kg iv once

Antiinflammatory : 4.4mg/kg iv

Prednisolone

Cattle: „

100 - 600 mg in 10% dextrosesaline iv

Dose: Dogs & Cats:

Antiinflammatory : 0.2-0.5mg/kg q12 im or iv

Dexamethasone

Dose: Dogs & Cats:

Shock : 50-150 mg/kg iv

Antiinflammatory : 0.125-1mg to dose/ days iv.

Cattle:

Shock : 4-6 mg/kg iv

Antiinflammatory : 5-40 mg iv

Triamcinolone

Dogs & Cats:

Shock : 1-4 mg/kg im or iv q4 hrs.

Antiinflammatory : 0.11-0.22 mg/kg im

Cattle:

Antiinflammatory : 0.02-0.04mg/kg

Betamethazone

Dog:

Antiinflammatory : 1.75-3.5 mg/kg im

Flumethasone

Dogs:

0.0625-0.25 mg iv, im of sc q 24

Cats:

0.03-0.125 mg iv, im of sc q24

Insulin in ketosis

Cattle:

Dose: 200-300 iu of protamine zinc insulin per animal repeated 24-48 hrs

Insulin in diabetes

Dogs :

0.25 units / kg (Initial dose)+0.1 units (kg as needed)

NSAIDs

Mechanism of action:- Inhibition of prostaglandin synthesis by inhibiting cyclo oxygenase I or II

Adverse reactions : Gastro intestinal damage, Impairment of platelet activity due to thromboxane synthetase inhibition Analgesic nephropathy

Naproxen

Dose: Horse: 10mg/kg., Dog: 2mg/kg oral good oral absorption

Ibuprofen

Dose: Dog: 5mg/kg oral Not much recommended in dogs.

Meloxicam acid

Ruminants 2mg/kg

Ketoprofen

less toxic than aspirin

Piroxicam

used in osteo arthritis in dogs. Dose: 0.1-0.3 mg/kg on alt. days.

Dimethylsulphoxide (DMSO)

Recommended for topical application. use d in chronic / acute muscu loskeletal disorders

Diclofenac

Dog: 0.5-1mg/kg/day deep im

Meclofenamic acid

Dog: 0.5 mg/kg/ day, Cat: 1mg/kg/day