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| Drug Used | Indications | Precautions/Contraindications | Withdrawal Time |
| Xylazine | Used as both a sedative and analgesic | Shock, cardiac incompetence, late pregnancy-may cause premature parturition, severe respiratory depression, animals receiving epinephrine/ having ventricular arrhythmias | 24 hours for milk and 4 days for meat |
| Ketamine | Used for both anaesthesia and analgesia | Respiratory depression, hepatic or renal insufficiency | For cattle: 48 hours for milk and 3 days for meatFor Swine: 2 days for meat |
| Lidocaine | Used both for nerve blocking and anaesthesia | Hypersensitivity to the drugLow therapeutic index | 24 hours for milk and 1 day for meat |
| Flunixin | Used for analgesia | Hypersensitivity to the drug, renal toxicity | 72 hours for milk and 4 days for meat |
| Penicillin-Streptomycin (Combikel) | Used as an antibiotic | Hypersensitivity to the drug | 30 days for meat and 10 days for milk |
| Tolazoline | Used as a non-selective competitive α-adrenergic receptor antagonist | Hypersensitivity to the drug | 48 hours for milk and 8 days for meat |
| Atropine | Used as an antidote for parasympathomimetic drugs | Atropine toxicosis – dry mouth, mydriasis, urinary retention, and tachycardia | A 3-day milk and 14 days meat |

**Drugs Used Preanaesthetically:**

Xylazine 2% intramuscularly at 1mg/kg for pigs and 0.05mg/kg for the calf
Xylazine for male pig = (1\*70.5)/20 = 3.5ml
Xylazine for female pig = (1\*76.4)/20 = 3.8ml
Xylazine for calf = (0.05\*103)/20 = 0.26ml

Penicillin-Streptomycin (Combikel)(200,000IU/ml) intramuscularly at 20,000IU/kg for all
Combikel for male pig = (20,000\*70.5)/200,000 = 7ml
Combikel for female pig = (20,000\*76.4)/200,00 = 7.6ml
Combikel for calf = (20,000\*103)/200,000 = 10.3ml

Ketamine 10% intravenously at 5mg/kg for all
Ketamine for male pig = (5\*70.5)/100 = 3.5ml
Ketamine for female pig = (5\*76.4)/100 = 3.8ml
Ketamine for calf = (5\*103)/100 = 5.2ml

Lidocaine 2% intravenously at 1mg/kg for all
Lidocaine for male pig = (1\*70.5)/20 = 3.5ml
Lidocaine for female pig = (1\*76.4)/20 = 3.8ml
Lidocaine for calf = (1\*103)/20 = 5.2ml

Flunixin 5% intravenously at 2.2 mg/kg for all
Flunixin for male pig = (2.2\*70.5)/50 = 3.1ml
Flunixin for female pig = (2.2\*76.4)/50 = 3.4ml
Flunixin for calf = (2.2\*103)/50 = 4.5ml

**Reversal Drugs:**

Tolazoline:
Double Xylazine dose = 2mg/kg for pigs and 0.1mg/kg for the calf
Tolazoline for the male pig = (2\*70.5)/100 = 1.4ml
Tolazoline for the female pig = (2\*76.4)/100 = 1.5ml
Tolazoline for the calf = (0.1\*103)/100 = 0.1ml
Four times Xylazine dose = 4mg/kg for pigs and 0.2mg/kg for the calf
Tolazoline for the male pig = (4\*70.5)/100 = 2.8ml
Tolazoline for the female pig = (4\*76.4)/100 = 3.0ml
Tolazoline for the calf = (0.2\*103)/100 = 0.2ml

Atropine
Atropine for the male pig = (0.04\*70.5)/0.54 = 5.2ml
Atropine for the female pig = (0.04\*76.4)/0.54 = 5.7ml
Atropine for the calf = (0.04\*103)/0.54 = 7.6ml

**Drugs used for Anaesthesia:**

An IV bag of saline was attached to the animal to deliver IV anaesthesia with a fluid rate of 5ml/kg/hr and volume of 1000ml

**For the pigs:**

CRI of xylazine 2% = 1mg/kg/hr, of ketamine 10% = 5mg/kg/hr, and of lidocaine 2% = 1mg/kg/hr

Xylazine added to the bag = (flow rate/CRI) \* bag volume = (1/5) \* 1000 = 200mg = 200/20 = 10ml

Ketamine added to the bag = (5/5) \* 1000 = 1000mg = 1000/100 = 10ml

Lidocaine added to the bag = (1/5) \* 1000 = 200mg = 200/20 =10ml

**For the calf:**

CRI of xylazine 2% = 0.05mg/kg/hr, of ketamine 10% = 5mg/kg/hr, and of lidocaine 2% = 1mg/kg/hr

Xylazine added to the bag = (flow rate/CRI) \* bag volume = (0.05/5) \* 1000 = 100mg = 100/20 = 0.5ml

Ketamine added to the bag = (5/5) \* 1000 = 1000mg = 1000/100 = 10ml

Lidocaine added to the bag = (1/5) \* 1000 = 200mg = 200/20 =10ml

**Toxic dose of Lidocaine:**

The toxic dose of Lidocaine is 10mg/kg so half of the toxic dose was avoid (5mg/kg).

Maximum amount of Lidocaine that can be used:
Male Pig = (5\*70.6)/20 = 17.7ml
Female Pig = (5\*76.4)/20 = 19.1ml
Female Calf = (5\*103)/20 = 25.8ml