**Pharmacology** 

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# Diploma in Pharmacy 2<sup>nd</sup> Year Pharmacology Experiment

# To study the laboratory animal Guinea Pig

#### Aim:

To study the laboratory animal Guinea Pig

#### Reference:

'Dr. P.Mudagal Manjunatha , "Practical Manual of Pharmacology" Published by Nirali Prakashan, Page no 11 - 14

# Theory: Description

- **Rectal Temperature:** 37 66-38.9 Specify Unit C or F
- Normal Respiration Rate: 80 per minute
- Pulse Rate: 150 per minute
- Gestation Period: 59-72 days.
- Weaning Age: 14-21 days
- Mating Age: 12-30 weeks
- Litters: 3 yearly; average litter. 3
- Room Temperature: 18.5-21
- Humidity: 45%
- Weight-Weaning: 120gm, adult: 200-1000gm

#### Housing

- → Stock nuns should be about 4x6ft and 1 feet 8 inch height
- → One square foot of space should be allowed for each animal
- $\rightarrow$  Not more than 25 animals should be kept in any one pen.
- → Galvanised iron cages should be used and sterilised.
- $\rightarrow$  A convenient size of 14x9x5 in fitting in a tray 1.5 in deep





# **Feeding**

- ♣ A diet in pelleted form should be provided in preference to mashes.
- ♣ Diet of Bruce and Parks (1947) contains balanced proportions of protein.fats and carbohydrate with added vitamins salt and trace element.
- Crushed cats 2 part+ Broken bran 1 part.
- **4** Cabbage and hay should be supplemented.
- ♣ Fish or meat meal should be added.

## **Different Strains of Guinea Pig**

- Skinny pig
- Abyssinian guinea pig
- Werewolf skinny pig
- Teddy guinea pig
- Texel guinea Pig
- White-crested guinea pig
- Peruvian Satin guinea pig

# Handling

- ♦ These are very humble rodents and can be easily handled because of their docile nature
- ♦ One hand should be placed across the animal back with the thumb behind the shoulder and the other fingers should be placed forward on the opposite side
- ♦ The animal should be lifted gently and its weight should be supported with the other hand's palm placed uppermost under the hind quarters.







## **Common Diseases of Guinea Pig**

- ▲ Pseudo tuberculosis (acute or chronic)
- ▲ Abscesses in lymphatic glands
- ▲ Respiratory tract infections
- ▲ Intestinal infections
- ▲ Protozoan disease (Coccidioisis, Toxoplasmosis)
- ▲ Viral disease.

### **Experimental Procedures Guinea Pig**

- Anaesthesia (Pentobarbitone sodium 28mg/kg body weight)
- ➤ Subcutaneous inoculation
- > Intracutaneous inoculation
- ➤ Intraperitoneal inoculation
- ➤ Collection of blood.

# **Applications**

- ✓ Evaluation of bronchodilators
- ✓ Anaphylactic and immunological studies
- ✓ Study of histamine and antihistamines
- ✓ Bioassay of digitalis
- ✓ Evaluation of local anaesthetics
- ✓ Hearing experiments study
- ✓ Isolated tissues especially ileum, heart
- ✓ Study on TB
- ✓ Study on ascorbic acid metabolism.

#### Result:

The laboratory animal guinea pig was studied.



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