



“बेटी बचाओ, बेटी पढ़ाओ”

JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR
Faculty of Pharmaceutical Science

Faculty Name	- JV'n Prof. Dr. Dharmendra Ahuja (Professor & Dean)
Program	- 5 th Semester/3rd Year
Course	- B.Pharm
Session	- Pharmacology Practical

Academic Day starts with–

- Greeting with saying ‘**Namaste**’ by joining Hands together following by 2-3 Minutes Happy session, Celebrating birthday of any student of respective class and **National Anthem**

To study the effects of Drugs on the Isolated Heart of Frog

Aim of the experiment

To study the effects of Drugs on the Isolated Heart of Frog Overview Numerous medicines act on the heart. Adrenergic and cholinergic medicines produce contrary goods. These medicines act through separate receptors. Some medicines act directly on the heart. This trial demonstrates the goods of a many medicines (agonists, antagonists, calcium and potassium) on the insulated heart of frog.

Materials required

1. Starling's heart lever

2. Stand
3. A kymograph with drum and smoked paper

Solutions

Volume of Following solutions to be injected is 0.2 ml

S.No.	Name of Drug	Dose(mcg)	Concentration
1.	Potassium Chloride	2000	10 mg/ml
2.	rine (Adrenaline)	2	10 mcg/ml
3.	Norepinephrine (Noradrenaline)	2	10 mcg/ml
4.	Isoprenaline	2	10 mcg/ml
5.	Propranolol	200	1 mg/ml
6.	Acetylcholine	2	10 mg/ml
8.	Calcium Chloride	2000	10 mg/ml
9.	Atropine sulphate	20	100 mg/ml

Volume of above solutions to be injected = 0.2 ml; mcg = micrograms

PROCEDURE :

1. Isolation of frog heart is done as per the routine procedure.
2. Inject the drugs and observe the following parameters
 - (a) a. Heart rate
 - (b) b. Tone
 - (c) c. Force of contraction

3 Tabulate the data.

Observation Table:

Sr. No.	Drug/Chemical	Dose (in mcg)	Basal Heart Rate	Heart rate (Beats/min)	Amplitude (Height-Increased-Decreased)
1	Epinephrine (Adrenaline)	2	65	75	Increased
2	Norepinephrine (Noradrenaline)	2	68	64	Increased
3	Isoprenaline	2	66	91	Increased
4	Propranolol	200	67	48	Decreased
5	Potassium Chloride	2000	66	01	Decreased
6	Acetylcholine	2	67	39	Decreased
7	Calcium Chloride	2000	66	01	Increased
8	Atropine Sulphate	20	67	70	No Major effect

Result : Different drugs shown response as per their pharmacological receptors dependent action. Results of effect of each drug is tabulated below.

Quiz:

1. List of cardiac stimulants and antidepressants?
2. Why I.V. Should potassium and calcium injections be given slowly?
3. Why is dopamine better than epinephrine in cardiogenic shock?
4. List the uses and side effects of (i) propranolol (ii) digoxin (iii) adrenaline?
5. List the drugs that depress the heart?

- **Next Topic-**

- Study of Effects of Different Drugs on Dog BP & Heart Rate.

- **Academic Day ends with-**
National song 'Vande Mataram'

Reference:

- Ex Pharm Virtual Pharmacology Version 0.01 Accessed on 3rd August 2023.