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Toxic effect of Amphotericin B on the sperm morphology of *Swiss albino mice*

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ABSTRACT

Amphotericin B is an antifungal drug used in the treatment of leishmaniasis. Although it's toxic effects on testes causing abnormalities in spermatogenesis has not been studies. Hence the present was examined after by the dose of Amphotericin B delivered intraperitoneally for 30 days. The mice were sacrificed after 24 h, 2 weeks, 4 weeks and 6 weeks of the treatment for sperm analysis.

INTRODUCTION

Amphotericin B is a well known anti-fungal drug used which is used in *leishmaniasis* to all age group. Sperm morphology considers to be the best mode to determine the structure and fertility. Various side effects of Amphotericin B is known till date but the sperm morphology is not known. The present work is designed to study the change in sperm morphology of mice exposed to Amphotericin B.

MATERIALS and METHODS

Mice: Young male mice of Swiss albino strain were obtained from M/S-Chakra borty Enterprises Kolkata and kept until they reached an age of 11 -12 week before being used. They were housed in a polypropylene cage with a photoperiod of 12 h in a well ventilated room and were allowed pelleted food and water *ad libitum*.

Five mice from each group were usually used for the assay of sperm abnormalities. Mice of each group were sacrificed by cervical dislocation and their cauda epididymides were removed. Sperm suspension were prepared from all the mice of each group by mincing cauda in 2 ml of normal saline P^H 7.2, pipetting the resulting suspension and remove the cell debris by the help of needles. A fraction of each suspension was then mixed (10:1) with 1% Eosin Y (water soluble) and 10 minute later a cover slip was placed so that the droplet of suspension spread equally and keep it for air dry. The live were unstained while the dead were stained by red colour.

RESULT

The drug was given to the mice daily for 30 days at a daily dose of 6 mg/kg body weight along with appropriate vehicle, prepared fresh daily.Glucose is used as a vehicle for Amphotericin B. Measurement of sperm abnormalities were made at 24 hr, 2 week, 4 week, 6 week after the 30 days of administration of dose. Sperm observed at this time were exposed to the chemicals. It is convenient to consider first the frequency of abnormalities in all groups of control animals.The level of significance (P) value is calculated with the help of ANOVA analysis by SPSS 16.0.

DISCUSSION

The Amphotericin B affects the sperm morphology after treatment for 30 days. The present study show that almost all the parameter of sperm investigation shows a change in the Sperm Concentration, Sperm Motility. Oligospermia has been reported by the use of Amphotericin B in animals[8].

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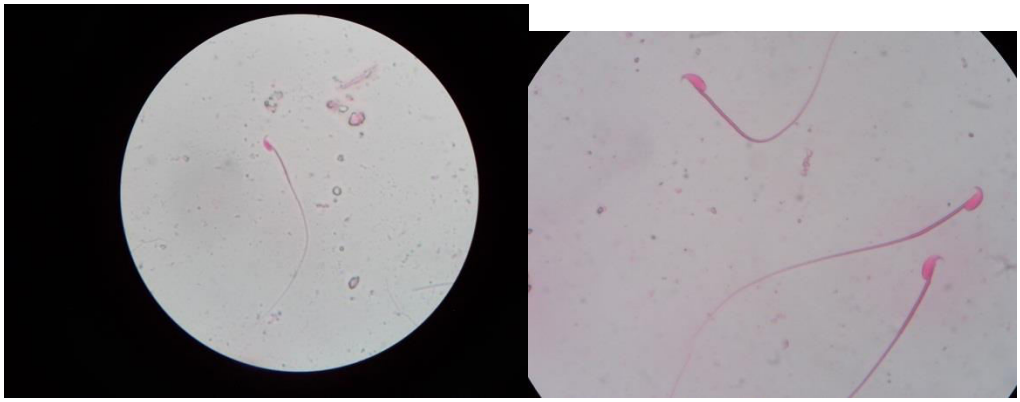
UTC



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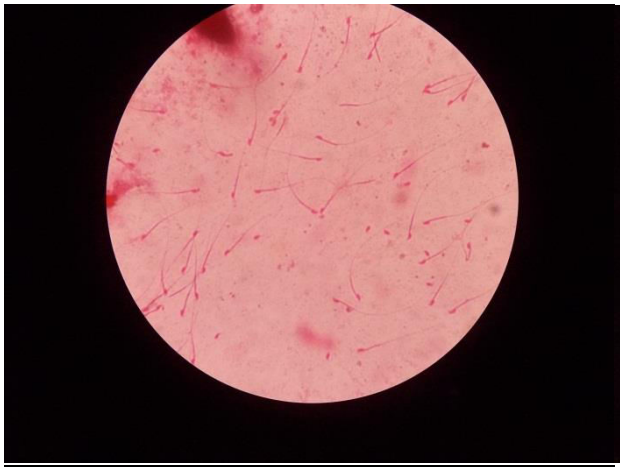

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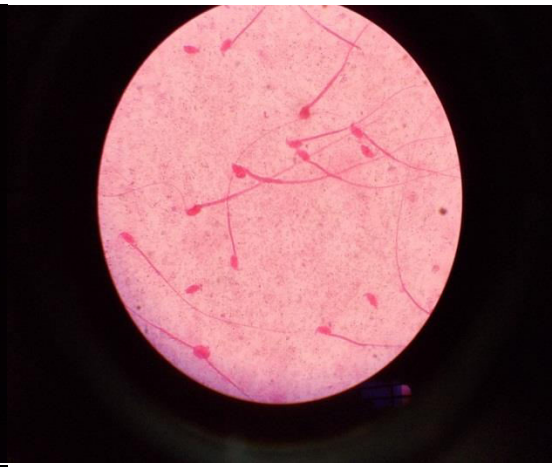

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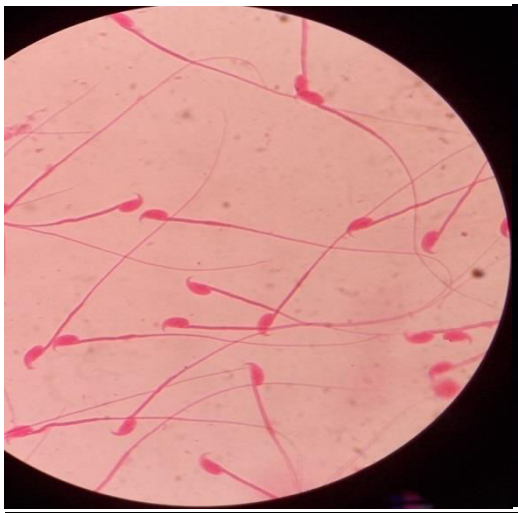

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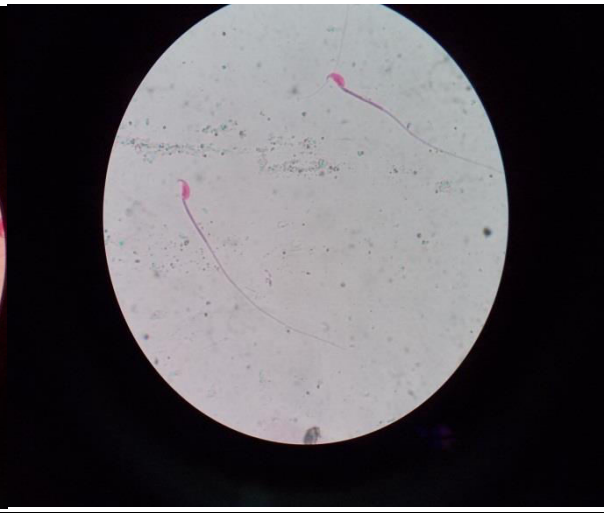

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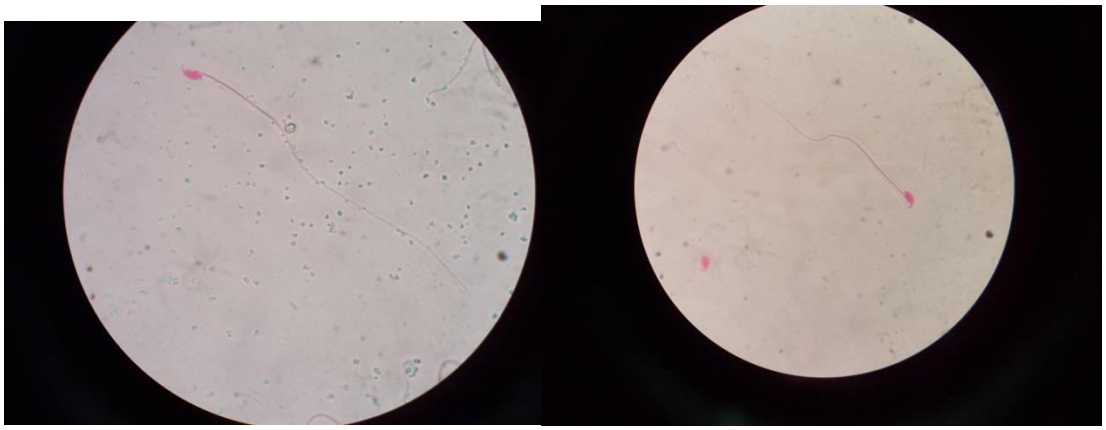

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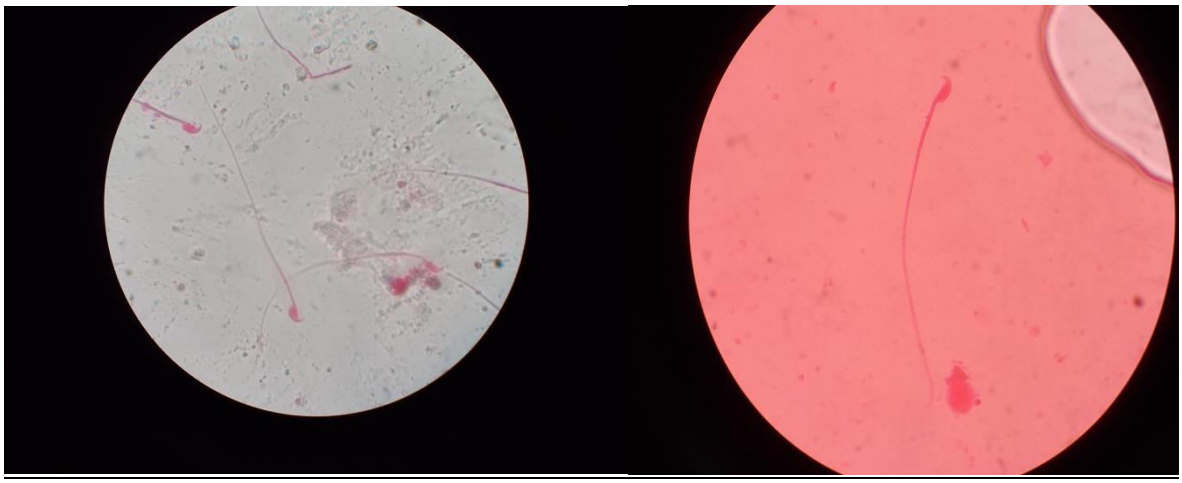

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Fig: 8

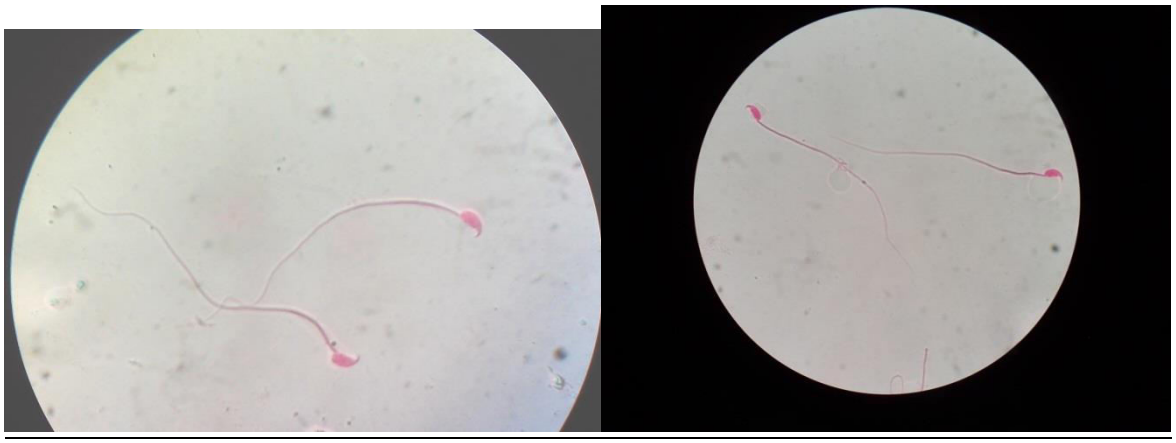
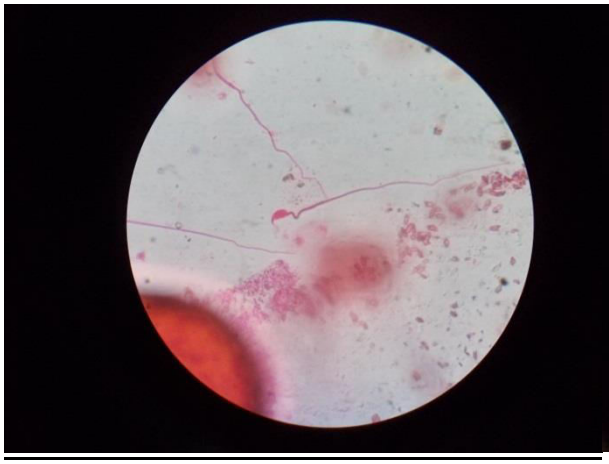


Fig: 9

Fig: 10

24 h (DT 1)



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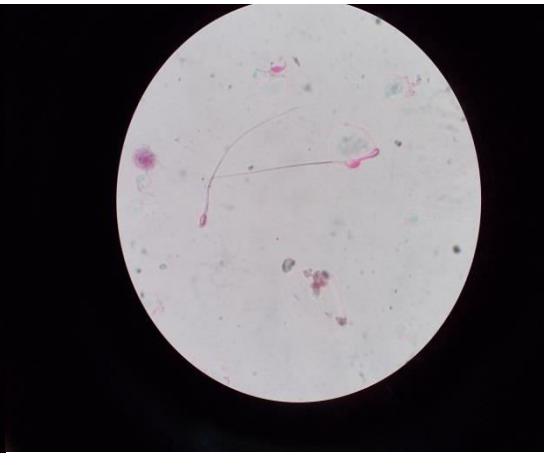

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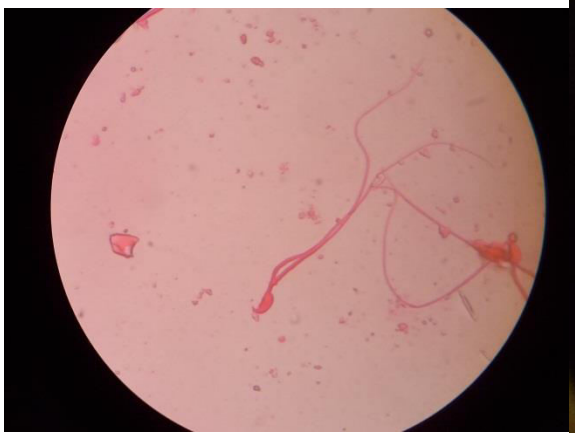

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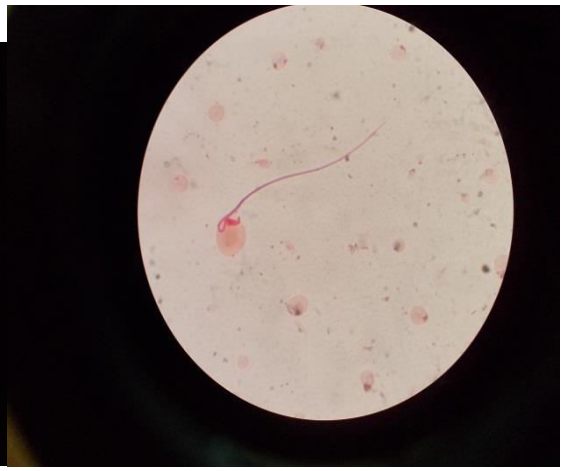

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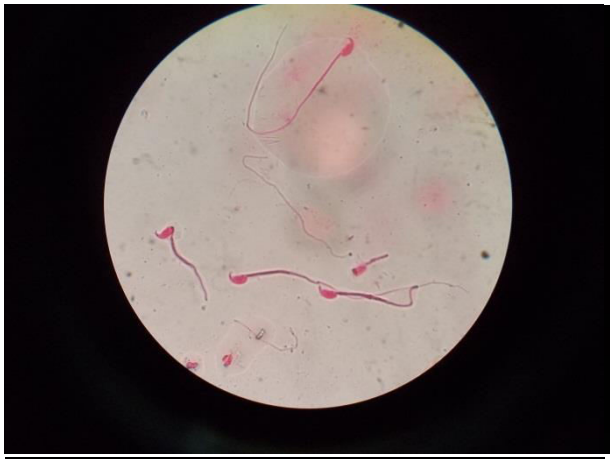

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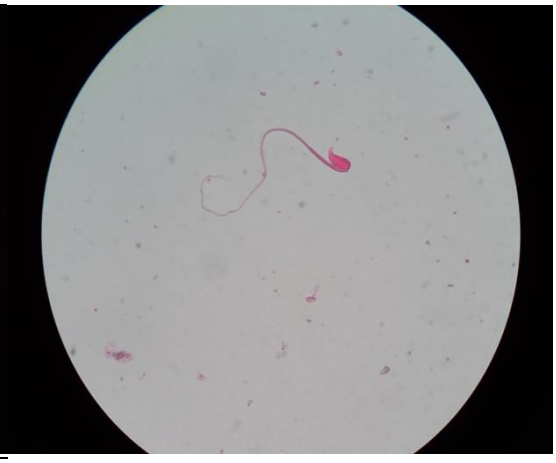

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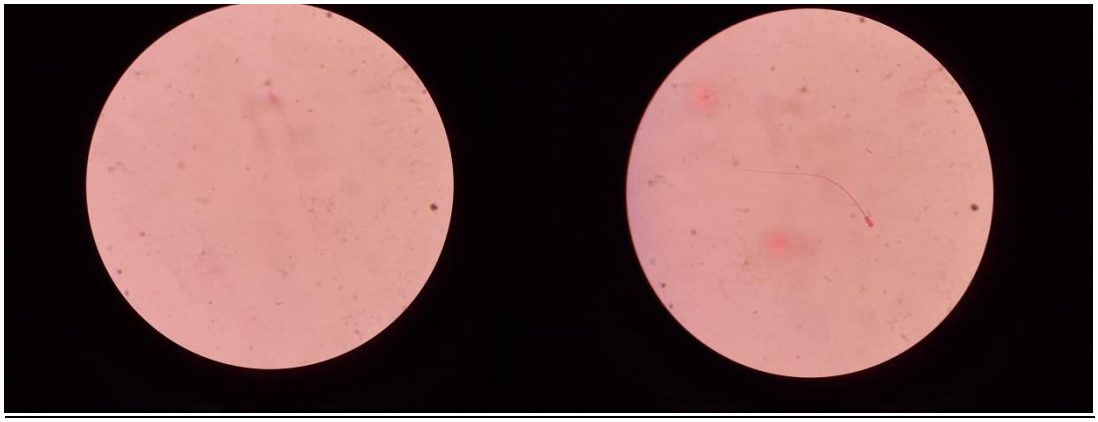
2 Week (DT 2)



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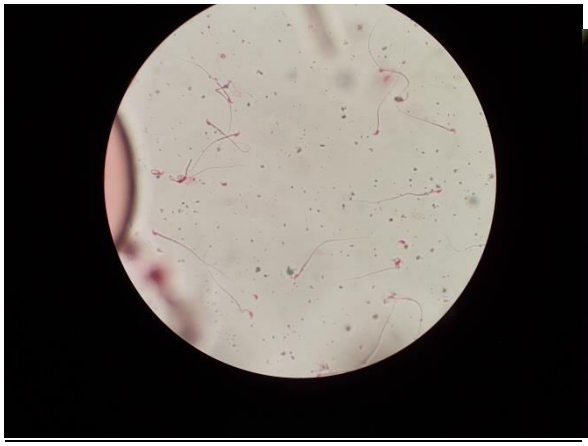

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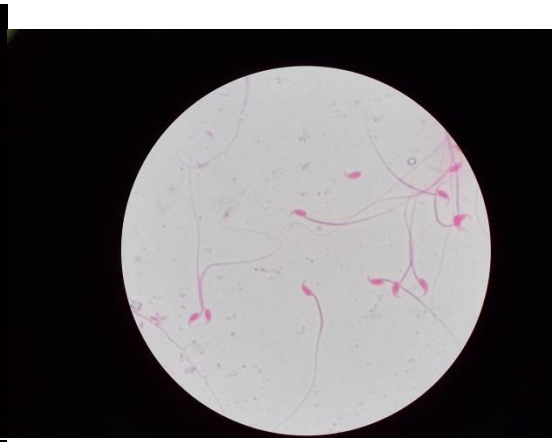

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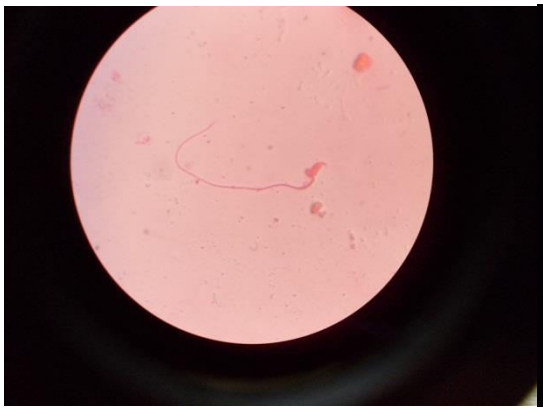

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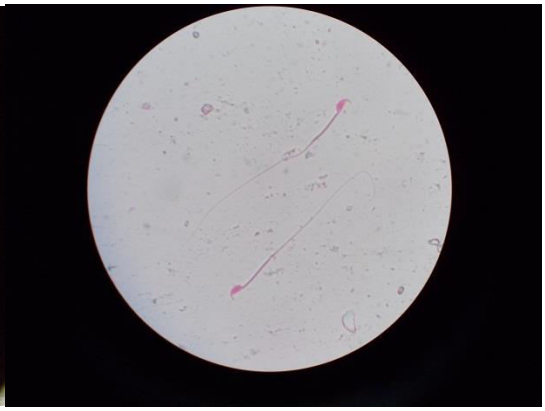

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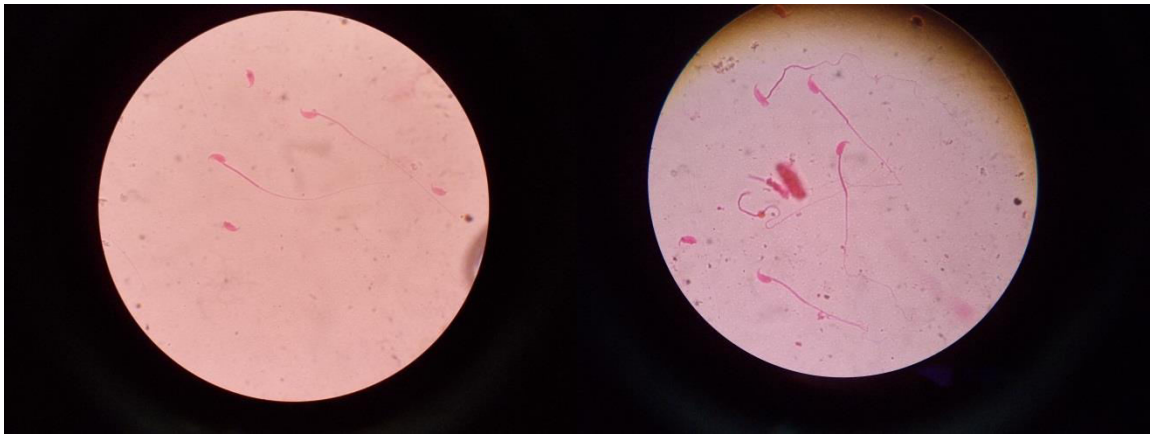
4 Week (DT3)



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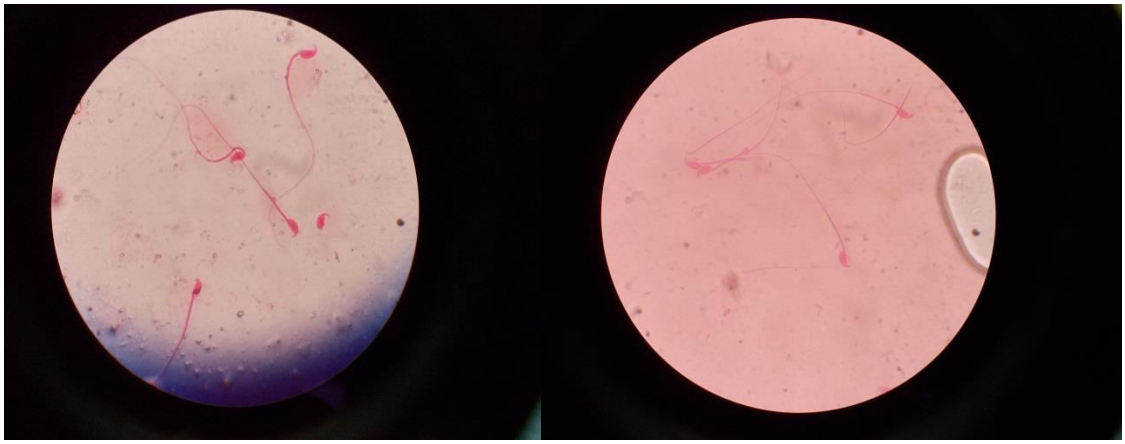

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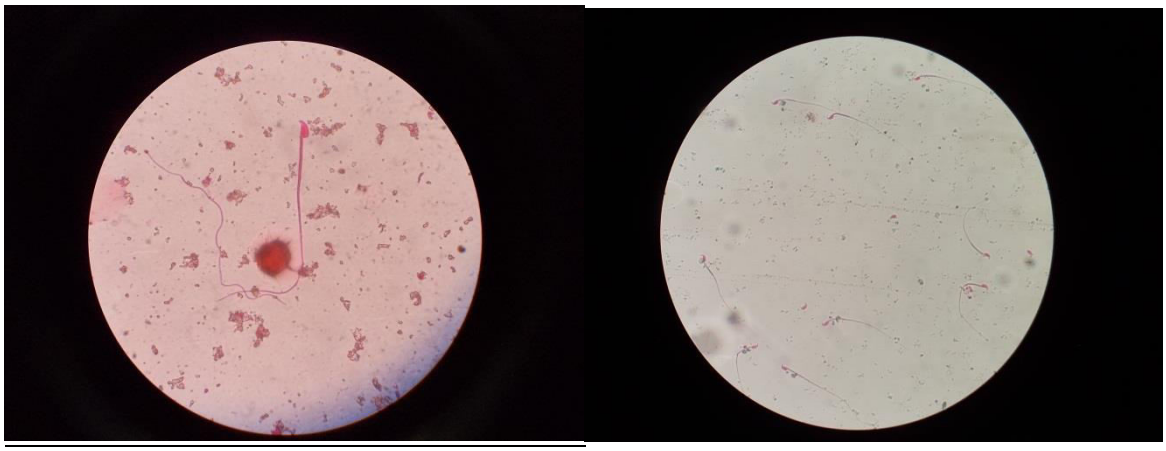
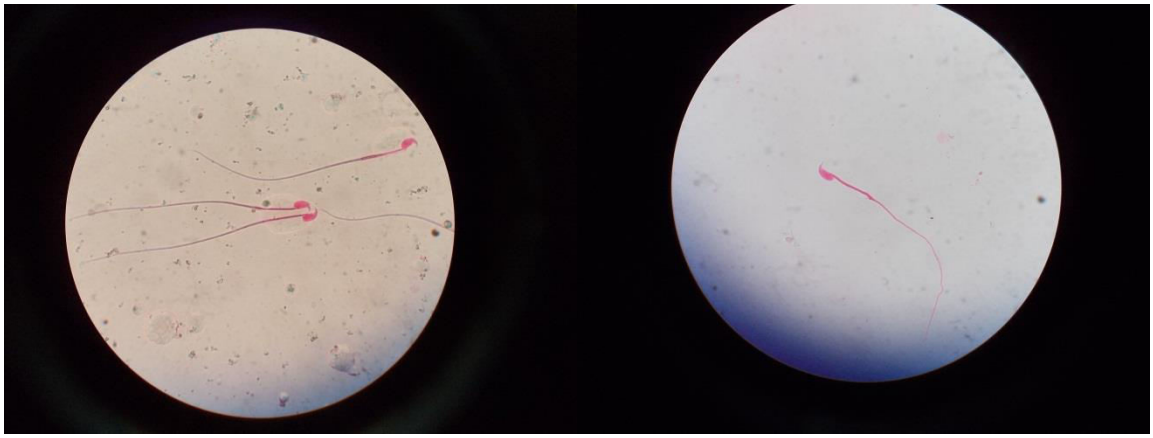


Fig: 24 Fig: 25

6 Week(DT 4)



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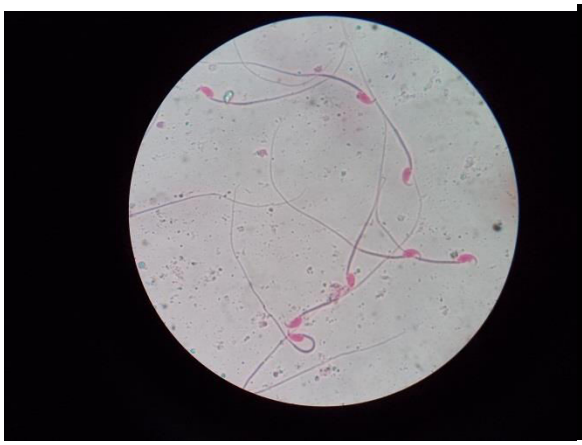

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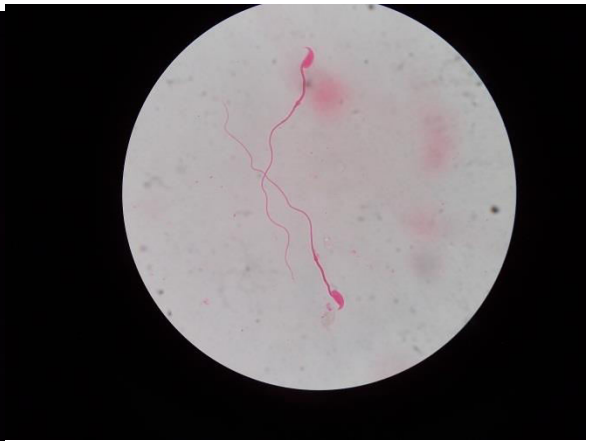

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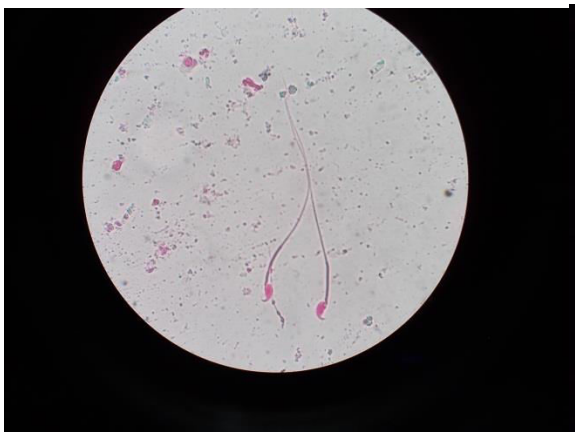

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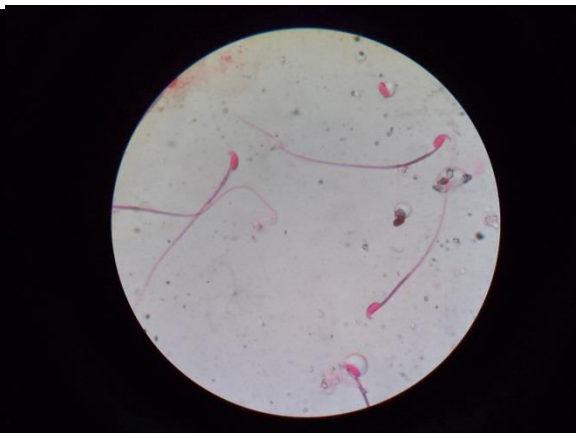

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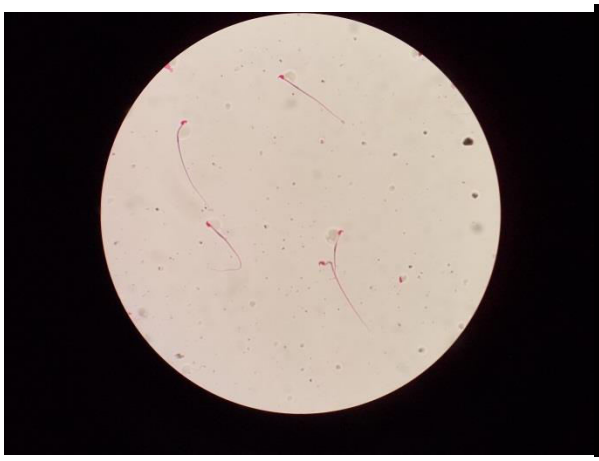

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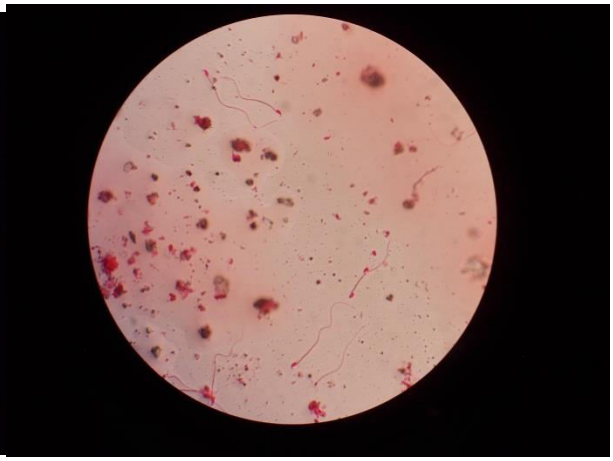

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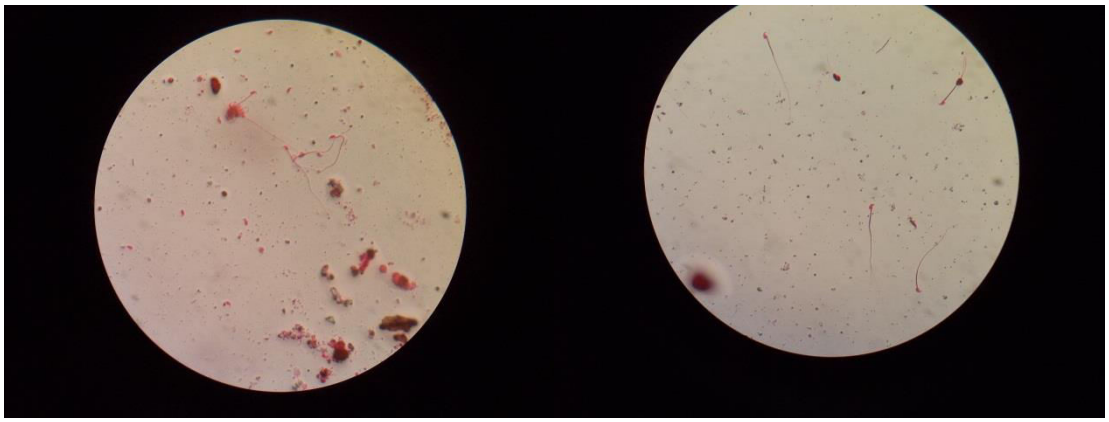

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Fig: 34

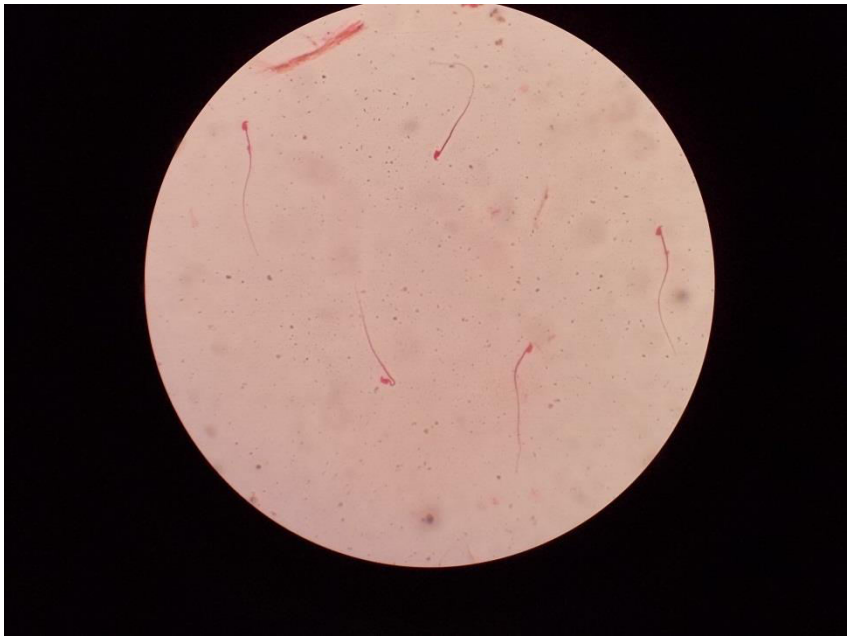

Fig: 35

Image Detail

Treated Mice	Image	Morphology
UTC		
Mice 1	Fig: 1	Normal Head
Mice 2	Fig: 2	Normal Head
Mice 3	Fig: 3	Normal Head
Mice 4	Fig: 4	Normal Head
Mice 5	Fig: 5	Normal Head
VTIC		
Mice 1	Fig: 6	Normal Head
Mice 2	Fig: 7	Normal Head
Mice 3	Fig: 8	Normal Head
Mice 4	Fig: 9	Normal Head
Mice 5	Fig: 10	Normal Head
24 H (DT 1)		
Mice 1	Fig: 11	Bend Neck
Mice 2	Fig: 12	Hairpin loop and Double Tail
Mice 3	Fig: 13	Bend Head
Mice 4	Fig: 14	Bend Head
Mice 5	Fig: 15	Irregualar Tail
2 Week (DT 2)		
Mice 1	Fig: 16	Normal
Mice 2	Fig: 17	Normal
Mice 3	Fig: 18	Normal
Mice 4	Fig: 19	Abnormal Head
Mice 5	Fig: 20	Normal
4 Week (DT 3)		
Mice 1	Fig: 21	Normal
Mice 2	Fig: 22	Normal
Mice 3	Fig: 23	Normal
Mice 4	Fig: 24	Normal
Mice 5	Fig: 25	Normal
6 Week (DT 4)		
Mice 1	Fig: 26	Normal
Mice 2	Fig: 27	Normal
Mice 3	Fig: 28	Normal
Mice 4	Fig: 29	Normal
Mice 5	Fig: 30	Normal
VTTC		
Mice 1	Fig: 31	Normal
Mice 2	Fig: 32	Normal
Mice 3	Fig: 33	Normal
Mice 4	Fig: 34	Normal
Mice 5	Fig: 35	Normal

Tests of Between-Subjects Effects

Dependent Variable:Value SPSS 16.0

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Hypothesis	7785.257	1	7785.257	48.519	.000
	Error	962.743	6	160.457[a]		
Test	Hypothesis	50.171	4	12.543	1.018	.418
	Error	295.829	24	12.326[b]		
Treatment	Hypothesis	962.743	6	160.457	13.018	.000
	Error	295.829	24	12.326[b]		
Test * Treatment	Hypothesis	295.829	24	12.326	.	.
	Error	.000	0	.[c]		

a. MS(Treatment)

b. MS(Test * Treatment)

c. MS(Error)