Sunflower seed oil effect on some physiological cases of adult chickens. Running Title: Gamma ray effects as oxidant stress on several physiological cases

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Abstract. This study aims to evaluate the effects of gamma-ray oxidation stress (ionization of biological cell as sperm) on the adult chicken reproductive system. In this research, we used cocks chicken at 36-54 weeks of age and find the importance of semen volume in (ml / brid / ejac). Concentration in (Million cells / ml.) and total sperm (Million cells / ejaculation). The value of semen volume, semen concentration and total sperm significantly increased with increased age of cock chicken but not at all ages, only at limited ages considered as control group. .These values were found at irradiation with low dose rate (low intensity) of gamma ray (33, 42, and 75 mGy/h) which is a chronic dose rate (long time of irradiation) at 8 h/day for 40 days, which was significant decrease with increase low dose rate gradually. The semen volume decrease ratio with irradiation doses of approximately 5-14% and with semen concentration of approximately 5-12% for three chronic low doses relative to the control group for each cock generation. The average value of both groups showed a substantial decrease in all parameters with increased gamma radiation dose levels. The current study also aimed to identify the problems that may arise from exposure to a slow and equal dose of radiation on certain sperm parameters for a relatively long period of time and to compare them with the findings of previous work on the same mechanism and Use of sunflower seed oil as a protective and protective material against oxidative stresses resulting from radiation exposure and work Reducing its percentage, especially on certain sperm parameters in male chickens.

Keywords. Gamma ray, oxidant stress, irradiation, semen volume, sperm of chicken, fertility, low dose rate

1. Introduction

Cystic echinococcosis (CE) it is widely endemic helminthic illness caused by infection metacetodes (larval stage) from tapeworm *Echinococcus granulosus*, one of the most important types of parasitic

disease, especially in underdeveloped and developing countries, the parasite affects humans and a wide range of livestock species (Taherkhani and Rogan, 2000). *E. granulosus* possess a significant economic and a public health problem in many portions of world, particularly in pastoral areas where dogs and livestock are put forward together, the disease is usually asymptomatic, however, it can clinically manifest as a complicated cyst, the most frequent complication is compression or rupture of pericystic structures (Daali *et al*., 2001). Human leukocyte antigen (HLA-G), a non-classical HLA class I molecule (Brenol *et al*., 2012). HLA-G molecule differs from classic HLA class I molecule by its expression, structure, genetic diversity and functions, several pathological cases, HLA-G gene could be expression induced by non-rejected allograft, damage infiltrating antigen presenting cells (APCs) through inflammatory sickness and tumor tissues and their tumor infiltrating antigen presenting cells, anywise, its tolerogenic function can be suitable or prejudicial for the patient (Morandi *et al*., 2007). Killer cell immunoglobulin-like receptors (KIRs), KIR2DL4 belong to family of killer cell Ig-like receptor (KIR), believed to contribute in innate immunity to infection and tumors, yet, KIR2DL4 is only MHC receptor whose gene is reduplicate in all natural killer (NK) cells, in disparity with clonal apportionment seen in all other KIR (Young *et al*., 2001). Immunoglobulin –like transcripts (ILTs), ILT family receptors are made up of active and inhibitory organs, LILRs inhibitory which transmit signals through their long cytoplasmic tails. Best-characterized inhibitory receptors are ILT2 (LILRB1), ILT3 (LILRB4) and ILT4 (LIRB2), ILT4 is expressed fundamentally by macrophages, monocytes and dendritic cells, ILT4 ligands are class I HLA molecules. (Anderson and Allen, 2009).

2. Materials and Methods

In this analysis, the food consumed by the chicken is not irradiated, but the whole body that was externally irradiated by a radioactive source and thus knows the role of this effect on the physiological changes that may occur in the semen and its characteristics that represent the semen sperm ability to continue producing naturally without any genetic mutation or gene expression change. In the Iraqi city of Mosul, sunflower seeds were collected from local markets as they were timed and filtered to eliminate all the impurities found in them. The oil extracted from sunflower seeds was produced using equipment to kill 50 g of seeds with a height of about 250 cm3. Concentration of ethanol (95 per cent) in an ice bath using a shattering tool. Under conditions and room temperature, using an electric generator to shake the mixture for an hour. Several filter paper layers were used to filter and then to centrifuge the filter. The mixture was carried out for a quarter of an hour at a speed of 1000 rpm. The last stage is to extract seed oil from top layers of the surface. The native chickens were selected from the local market at the age of 36-54 weeks per week. Forty healthy Thai native cocks were randomly divided into 4 groups of 10 each. The chickens ranched for 15 hours a day in the cages with free access to feed and water and light exposure. Collected semen of each group was obtained by abdominal technique only twice a week. Mean value of the two inter-week ejaculation of each group was considered as the group's average combined semen volume from which the average bridge / ejaculation semen volume was determined at that age point. The overall sperm / ejaculation number was obtained by multiplying the semen concentration value with the average semen / brid / ejaculation volume.

2.1. Semen colour

Semen color usually refers to density of the ejaculates. Domestic fowl semen varies with a dense opaque halt to a watery fluid produced with glands of various reproductive agents. It scales from a relative upper sperm density, or transparent marks with milky white, by reducing sperm counts [11]. The color of semen was dependent on the bird species used, then semen must always be creamy to suggest an increased sperm concentration [12]. Blood flakes can be present in the collection or infection process, the cab can be found with great force. The sperm samples are combined with non-cancelated urine, but treated with antibiotics such as neomycin to minimize sperm loss. Improve antibiotic fertility while used as a semen diluent [13].

2.2. Ejaculate volume

Male chickens obtain approximately (0.1 -1.5) ml / ejaculation, 0.6 ml of average fixed ejaculate volume [12]. The different cockerels of the same species often produce variance amounts of semen at variance times [14]. The average volume ejaculated by the abdominal massage technique is around 0.25ml [15, 16] the mean amount of semen from (0.28 ± 0.14) ml was found.

The fixed volume of semen was found to scale similar (0.37 ± 0.02 and 0.73 ± 0.01) to ml [1], however. It is important to note the semen volume and sperm concentration (volume crossed or compounded with concentration value) will yield the sperm count collected / ejaculation number. This will accelerate the achievement of reducing the count of pollination doses [17].

2.3. Americium Properties

Americium (241Am) was obtained from the Department of Physics at the University of Mosul College of Science and has 59.5 keV energy and 50x10-6 Ci radiation intensity with continuous exposure or gamma continuous = 0.013 R. M / h .This. Half-life of these sources is equivalent to 432 years and add to that with a few centimetres the source of radiation emitting alpha particles passes through its grid [18]. The effect of gamma rays depends on many factors as animal age, form and sex species, cell size, type of cell, frequency and radiation energy, time of exposure to source geometry.

2.4. Work system

The device is made up of a ^{241}Am source that produces gamma radiation at 33, 42 and 75 (m Gy/h) irradiation dose levels on the cocks chickens. Gamma chive irradiation with 8 hours maximum treatment for 40 days as shown in (Figure 1). The portable Geiger counter was used to calculate the dose rate for radiation using R / h and covert to mGy / h in this job The detector has many applications such as the amount of X-ray radiation exposure. Alpha, Beta released as a type of radiation add-on to gamma ray from the other environment.

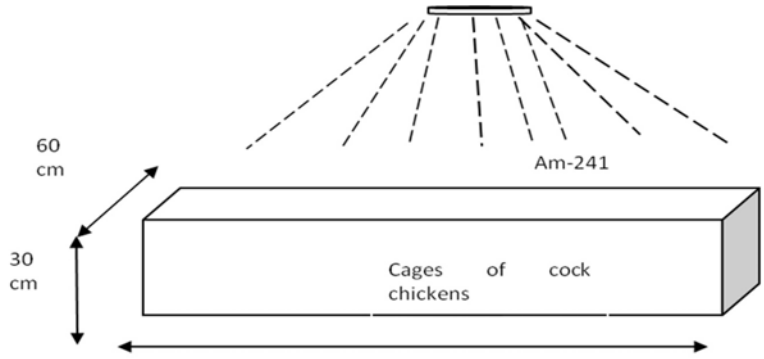

Figure 1. Set up of experiment.

3. Experimental design

3.1. Experiment 1

1- Each group includes 10 cocks of 36-54 weeks of age and only food and water, the first group without irradiation (control) for 40 days.
2- 2nd party irradiated with a low gamma-ray dose rate of 33 m Gy / h at 8 h./day for 40 days
3- 3rd party irradiated with a gamma ray dose rate of 42 m Gy / h for 40 days at 8 h / day.
4- 4th party irradiated by a gamma-ray dose average of 75 mGy / h for 40 days at 8 h/ day

3.2. Experiment 2

1- Each group contains 10 cocks of 36-54 weeks of age and only food and water, the first group without irradiation (control) for 30 days.
2- 2nd party administer 400 mg / kg sunflower oil. wt. for 30 day at 8 h/day
3- 3rd party irradiated with a gamma-ray exposure rate of 75 m Gy / h for 30 days at 8 h / day.

4- 4th party administer 400 mg / kg sunflower oil. wt and gamma-ray dose intensity radiated at 75 mGy / h for 30 days at 8 h / day.

3.3. Statistical analysis

All values were shown as mean ± S.D. In this experiment one way analyzing (ANOVA) after variance was used. Significant amounts were calculated by Duncan Include at p. 0.05 [19].

4. Results

4.1. Results of experiment 1

All findings shown in the tables of the present job.

Table 1. Semen concentration for 40 days without irradiation (control) of the cocks aged 36-54 weeks

age of Cock (weeks)	volume of Semen mean value ±S.D (ml/brid/ejac)	Concentration of Semen mean value ±S.D Million cells/ml.)	Total sperm mean value ±S.D (million cells/ ejaculation)
36	0.37ac±0.023	7005.5cd±0.43	2592.03bc± 0..32
38	0.39bc±0..022	6912,9cd±0.44	2696.03bc±0.11
40	0.41a±0.044	7702.81bc±0.23	3158.15ab±0.21
42	0.41a±0.023	7723.6 b±0.12	3166.67ab±0.22
44	0.40b±0.033	7876.90b±0.24	3150.76ab±0.31
46	0.40b±0.041	8012.23ab±0.12	3204.89 a±0.32
48	0.40b±0.071	8065.24ab±0.32	3226.09±a0.14
50	0.40b±0.021	8125.7a±0.51	3250.28a±0.61
52	0.30c±0.034	8212.8a±0.31	2463.84bc±0.63
54	0.29cd±0.022	8124.2a±0.11	2356.01cd±0.54

Table 2. Semen concentration of cocks irradiated with gamma ray at dose rate 33 m Gy/h at 8 h/day for 40 days

age of Cock (weeks)	Volume of Semen mean value ±S.D (ml/brid/ejac)	concentration of Semen mean value ±S.D Million cells/ml.)	Total sperm mean value ±S.D (million cells/ ejaculation)
36	0.33c±0.021	6655.22bc±0.32	2196.22b±0.23
38	0.37bc±0.007	6567.25bc±0.33	2429.88ab±0.12
40	0.39a±0.03	7316.9ab±0.21	2853.59a±0.32
42	0.39a±0.012	7733.85 a ±0.43	3016.20a±0.33
44	0.38b±0.042	7482.2ab±0.22	2843.23±0.22
46	0.38b±0.054	7611a.4±0.34	2892.33a±0.11
48	0.38b±0.023	7661.75 a ±0.31	2911.46a±0.15
50	0.38b±0.065	7718.75a±0.44	2933.12a±0.51
52	0.28cd±0.048	7802.16a±0.42	2184.60b±0.52
54	0.27cd±0.055	7717.8a±0.35	2083.80bc±0.34

Table 3. Semen concentration of cocks irradiated with gamma ray at dose rate 42 m Gy/h at 8h/day for 40 days

age of Cock (weeks)	volume of Semen mean value ±S.D (ml/brid/ejac)	concentration of Semen mean value ±S.D Million cells/ml.)	Total sperm mean value ±S.D (million cells/ ejaculation)

36	0.32c±0.04	6304.5c±0.42	2017.44bc±0.62
38	0.34bc±0.044	6220.8d±0.43	2115.07b±0.43
40	0.36±a0.032	6932.07b±0.24	2495.5ab±0.55
42	0.36b±0.63	6950.7b±0.21	2502.25a±0.32
44	0.35b±0.34	7088.4b±0.34	2480.94ab±0.42
46	0.35b±0.12	7210.8ab±0.33	2523.78a±0,53
48	0.35b±0.11	7258.5ab±0.32	2540.47a±0.54
50	0.35b±0.22	7313.13a±0.45	2559.59a±0.56
52	0,27cd±0.56	7390.8a±0.55	1995.51cd±0.62
54	0,26cd±0.64	7311.78a±0.32	1901.06 cd±0.55

Table 4. Semen concentration of cocks irradiated with gamma ray at dose rate 75b mGy/h at 8 h/day for 40 days

age of Cock (weeks)	volume of Semen mean value ±S.D (ml/brid/ejac)	concentration of Semen mean value ±S.D Million cells/ml.)	Total sperm mean value ±S.D (million cells/ ejaculation)
36	0.32bc±0.032	6164.4d± 0.44	1972.48bcd±0.54
38	0.34ab±0.044	6082.56de±0.43	2068.07bc±0.54
40	0.35a±0.54	6777.76cd±0.32	2372.21a±0.55
42	0.34ab±0.46	6796.24cd±0.54	2310.72a±0.65
44	0.34ab±0.56	6931.67c±0.55	2356.76a±0.60
46	0.33b±0.64	7050.56ab±0.64	2326.68a±0.40
48	0.33b±0.45	7097.2ab±0.55	2342.07a±0.46
50	0.32bc±0.71	7150.61a±0.65	2288.19ab±0.74
52	0.26c±0.66	7226.56a±0.66	1878.90cd±0.71
54	0.25c±0.64	7149.12a±0.47	1787.28cd±0.69

Table 5. Average value of semen concentration, semen value and total sperm for the all groups

Groups	Average value of volume of Semen mean value ± S.D (ml/brid/ejac)	Average value of concentration of Semen mean value ± S.D Million cells/ml.)	Average value of Total sperm mean value ±S.D (million cells/ ejaculation)	P-value
Group 1 (control)	0.337a±0.10	7776.189.489a±0.65	2714.428a±0.25	0.001
Group 2 (33 mGy/h)	0.335b±.04	7426.687b±0.44	2767.188ab±0.83	0.055*
Group 3 42 mGy/h	0.331bc±0.06	6998.156c±0.34	2313.141c±0.66	0.06*
Group 4 75 mGy/h	0.318d±0.03	6842.67d±0.44	2027.668d±0.45	0.08*

* Important ± S.D * * p=0.05 * * * n=20 * * * T=80
* Significant level (p<0.05) is stated as a, b , c, d between groups * * * Nimber of animals in each group * * * * Total number of animals used.

Significant value means that at the limit point all values are equal to (0.05) due to the statistical analysis system comparison and result of various forms or not between them. If there is no change at the limit point 0.05 between values (mean no noticeable change) There is a close correlation between the parameters which we studied with the activity of sperm cells. The preference of male chickens as a replacement for female chickens is attributable to the hormonal activity of female chickens that affects

the body physiologically and the immune activity including the development of eggs that affects directly. The blood cells count. Due to the high susceptibility to radiation, ionizing radiation impacts the reproductive system more intensively than any organ in the human body, and therefore the effect appears swift and simple. Ionizing radiation produces free radicals of all kinds which destroy and kill sperm and can lead to gene expression changes. This poses a danger to these animals' reproduction and thus affects their production and quality, creating an economic problem.

4.2. Result of experiment 2

Table 6. Effect sunflower oil on properties of semen of male chickens

Age in week	Parameters	Control group1 without irradiation	Group2 Administrate Sunflower 400 mg/kg. wt	Group3 Irradiated with gamma ray 75 m Gy/h for 8h/day for 30 days	Group4 Administrate Sunflower 400 mg/kg. wt and irradiated with gamma ray 8h/day for 30 days
36	volume of Semen mean value	0.37bc±0.023	0.444a±0.033	0.222d±0.022	0.296c±0.023
	Semen mean value Concentration	7005.5b±0.43	8406a±0.051	4203.3d±0.033	5604.4c±0.04
	Total sperm mean	2592.03b± 0..32	3110.43a± 0.40	1555.21d±0.28	2073.62c±0.30
38	volume of Semen mean value	0.39b±0..022	0.468a±0.033	0.234d±0.022	0.312c±0.023
	Semen mean value Concentration	6912,9b±0.44	8295.48a±0.051	4147.74d±0.033	5530.32c±0.04
	Total sperm mean	2696.03b±0.11	3235.23a±0.40	1617.61d±0.28	2156.824c±0.30
40	volume of Semen mean value	0.41b±0.044	0.492a±0.033	0.246d±0.022	0.328c±0.023
	Semen mean value Concentration	7702.81b±0.23	9243.36a±0.051	4621.686d±0.033	6162.24c±0.04
	Total sperm mean	3158.15b±0.21	3789.78a±0.40	1894.89d±0.28	2526.52c±0.30
42	volume of Semen mean value	0.41b±0.023	0.492a±0.033	0.246d±0.022	0.328c± 0.023
	Semen mean value Concentration	7723.6 b±0.12	9268.32a±0.051	4634.16d±0.033	6178.88c±0.04
	Total sperm mean	3166.67b±0.22	3800.00a±0.40	1900.00d±0.28	2533.336c±0.30
44	volume of Semen mean value	0.40b±0.033	0.48a±0.033	0.24d±0.022	0.32c±0.023
	Semen mean value Concentration	7876.90b±0.24	9452.28a±0.051	4726.14d±0.033	6301.52c±0.04
	Total sperm mean	3150.76b±0.31	3780.91a±0.40	1890.42d±0.28	2520c±0.30
46	volume of Semen mean value	0.40b±0.041	0.48a±0.033	0.24d±0.022	0.32c±0.023
	Semen mean value Concentration	8012.23b±0.12	9614.67a±0.051	4807.33d±0.033	6409.784c± 0.04

	Total sperm mean	3204.89b±0.32	3845.86a±0.40	1922.934d±	2563.912c±0.30
	volume of Semen mean value	0.40b±0.071	0.48a±0.033	0.24d±0.022	0.32c±0.023
48	Semen mean value Concentration	8065.24b±0.32	9678.28a±0.051	4839.144d±0.033	6452.192c±0.04
	Total sperm mean	3226.09b±0.14	3871.30a±0.40	1935.654d±0.28	2580.872c±0.30
	volume of Semen mean value	0.40b±0.021	0.48a±0.033	0.24d±0.022	0.32c±0.023
50	Semen mean value Concentration	8125.7b±0.51	9750.84a±0.051	4.875.42d±0.033	6500.56c ±0.04
	Total sperm mean	3250.28b±0.61	3900.33a±0.40	1950d±0.28	2600c±0.30
	volume of Semen mean value	0.30b±0.034	0.45a±0.033	0.18d±0.022	0.24c±0.023
52	Semen mean value Concentration	8212.8b±0.31	9855.36a±0.051	4927.68d±0.033	6570.24c± 0.04
	Total sperm mean	2463.84b±0.63	2956.60a±0.40	1478.304d±0.28	1971.072c±0.30
	volume of Semen mean value	0.29b±0.022	0.348a±0.033	0.48333d±0.022	0.232c±0.023
54	Semen mean value Concentration	8124.2b±0.11	9749.04a±0.051	4874.52d±0.033	6499.36c±0.04
	Total sperm mean	2356.01b±0.54	2827.212a±0.40	14113.60d±0.28	1884.8c±0.30

Table 7. Ratio between groups respect to semen properties

Age in week	**Parameters**	**Ratio% groupe2/groupe1**	**Ratio % Group 3/ group 1**	**Ratio % group 4/ group1**
	Volume of Semen mean value	1.2	0.6	0.80.8
36	Semen mean value Concentration	1.2	0.59	0.8
	Total sperm mean	1.2	0.55	0.8
	Volume of Semen mean value	1.21	0.6	0.85
38	Semen mean value Concentration	1.18	0. 57	0.81
	Total sperm mean	1.19	0.59	0.82
	Volume of Semen mean value	1.195	0.61	0.81
40	Semen mean value Concentration	1.2	0.6	0.8
	Total sperm mean	1.19	0.6	0.8
	Volume of Semen mean value	1.195	0.59	0.79
42	Semen mean value Concentration	1.2	0.6	0.8

	Total sperm mean	1.2	0.59	0.79
	Volume of Semen mean value	1.2	0.6	0.8
44	Semen mean value Concentration	1.19	0.58	0.79
	Total sperm mean	1.2	0.6	0.8
	Volume of Semen mean value	1.2	0.58	0.78
46	Semen mean value Concentration	1.19	0.58	0.78
	Total sperm mean	1.2	0.6	0.8
	Volume of Semen mean value	1.21	0.61	0.8
48	Semen mean value Concentration	1.2	0.6	0.8
	Total sperm mean	1.19	0.58	0.78
	Volume of Semen mean value	1.22	0.6	0.8
50	Semen mean value Concentration	1.18	0.58	.078
	Total sperm mean	1.2	0.6	0.8
	Volume of Semen mean value	1.46	0.59	0.79
52	Semen mean value Concentration	1.2	0.6	0.8
	Total sperm mean	1.2	0.6	0.8
	Volume of Semen mean value	1.16	0.5	0.9
54	Semen mean value Concentration	1.2	0.6	0.8
	Total sperm mean	1.19	0.59	0.82

We found the relationship between dose rate and semen properties as semen length, semen concentration and total sperm of all cock ages from Tables (2-4).

For biology, the control group is the class that receives no gamma (fixed state) radiation. The adjustment in the new effect on the normal physiological condition of male chickens happens when specific doses affect them, and a variable dose in each case. The first event, which had been not affected by ionizing radiation, first group was considered stable and toxic. As for the majority of the cases which were affected in variable doses by radiation, all other categories were considered. The distance between the source of radioactivity and the animals is 1.5 metres, where the Source was covered in silver paper to avoid releasing any radiation except for gamma rays. A cage made of plastic material was used to allow radiation to move without reaction. Chickens are considered birds, while mice are butterflies, and the physiological difference between them is considerable, so that a comparison cannot be made

In this study, radioactive source as ^{241}Am was used to obtain soft doses of gamma rays with a limited amount of energy to impact male mice. This is in accordance with several studies which used this source in the field of medical physics where it had previously happened [20]. The radioactive source was used to supply the x-ray detector film used as a thermopile in the dental sector as a view of the optical density of the x-ray film as a replacement for the minimal densitometer for this work. Even another work where the radioactive source was used to prove the impact of screen intensification on the x-ray sensitivity curve Detector film in which the dose rate of radiation is limited for each method of manual film detector development [21]. Added to this, the radioactive source has been used to limit the radiometric calibration practically in film compared with the theoretical results [22].

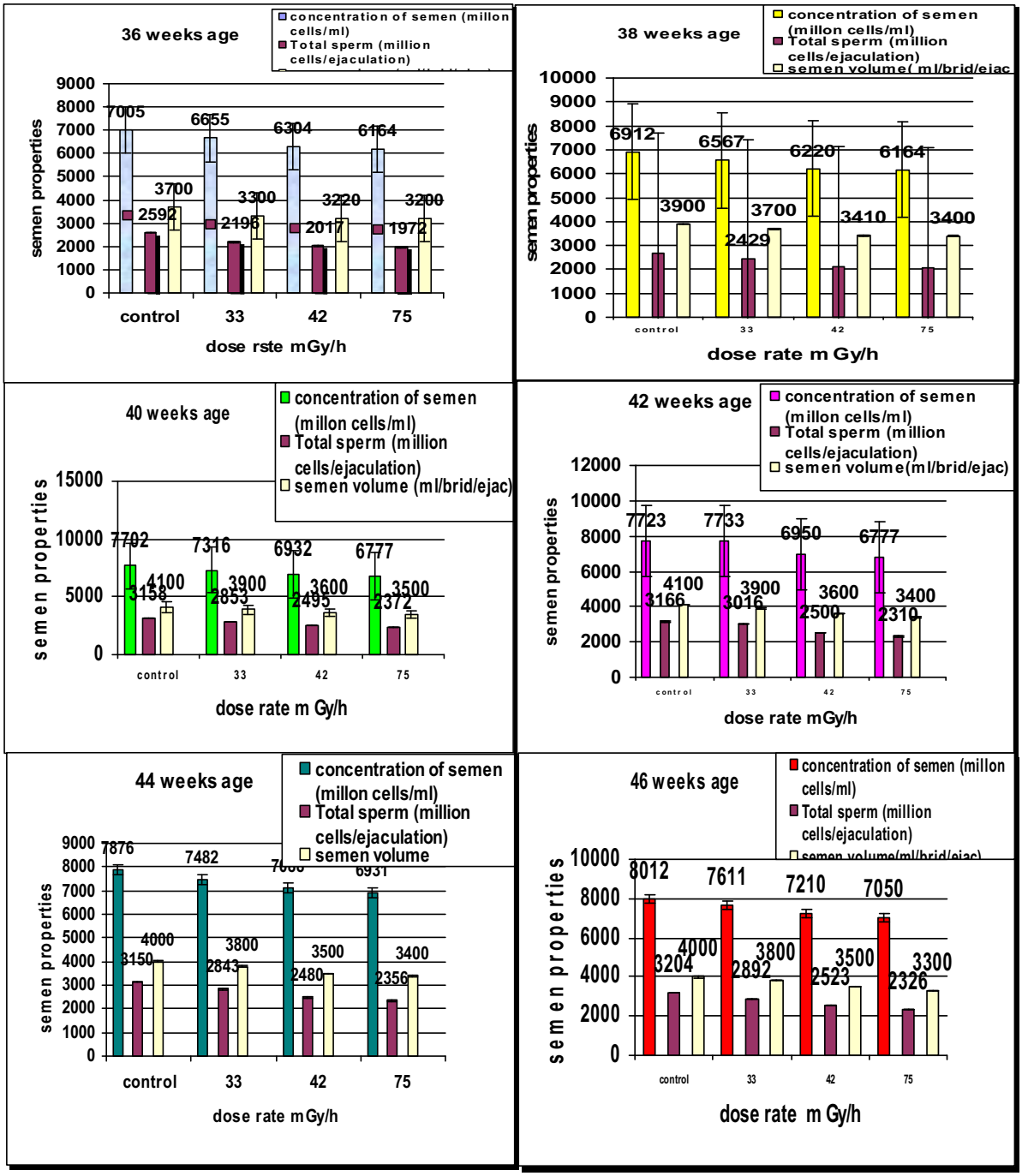

Figure 2. Relationship between semen properties and gamma ray dose rate as cock age from 36-46 weeks

The semen volume scale multiplies with 10^4

* To ± S.D. * * * p= 0.05 * * * n= 5 * * * T= 20

* Means and standard deviations shown in Tables 1. * * Significance level (p.0.05).as, b , c, d among classes. * * * Number of animals per group.***All animals used

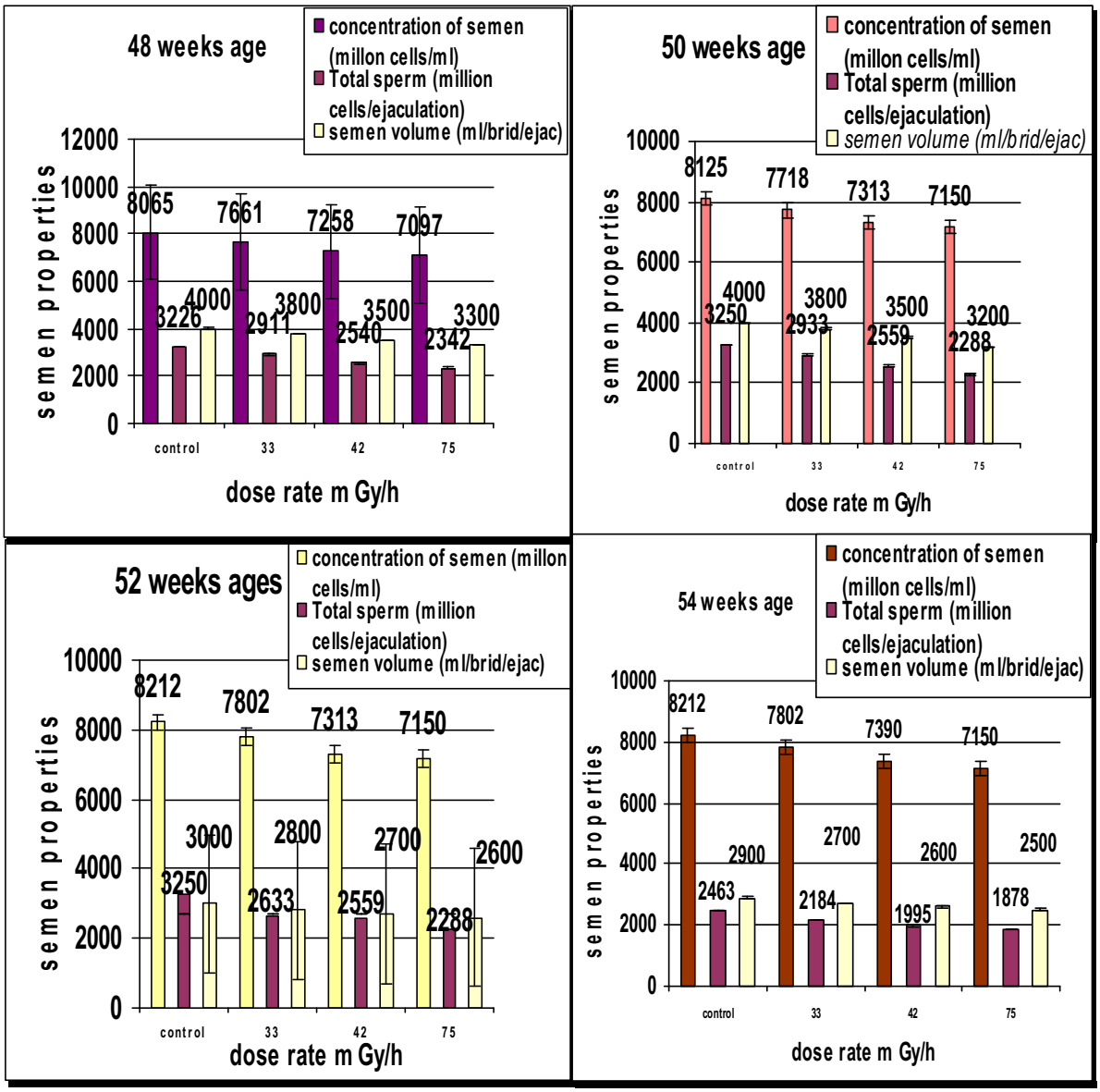

Figure 3. Relationship between semen properties and gamma ray dose rate as cock age from 48-54 weeks

Semen volume scale multiplies with 10^4

5. Discussion

From table (1) we find the value of semen volume (ml / brid / ejac), semen concentration (million / cells / ml) and total sperm (million cells / ejaculation) in weeks with substantial increase in cock era. From tables(2,3 and4) as well as Fig (2 and 3), the effect of low-dose gamma rays with long irradiation time was found as chronic dose at 8 h / day for 40 days (33, 42 and 75 mGy / h). The value of semen volume, semen concentration and total sperm significantly decreased with increased irradiation dose rate, which was slowly compared for each age with control group (without irradiation). The ratio decreased semen volume was roughly (5-14%) and decreased concentration level of semen (5-12%). From table (5) we

found the average value of all groups that indicated significant decrease in all parameters with increased doses rate of gamma radiation and P-vale for their. Our results are in line with the [23] study established an in vivo assessment of gamma ray and electron beam irradiation plus a commercial toxin binder as an anti-aflatoxin B1 in chicken. This study's method also agrees with the [24], using the gamma ray soft effect Our analysis also agrees with U.S. concept Army invoked the FDA for the salvation of raw bacon, placed in vacuum and irradiation sterilized (45 to 56 kGy at 5 Co); salvation was preferred for this yield in February 1963. The FDA revoked the consent of irradiated packaged bacon assizes in 1968, beginning with a near review of all tendered results.

Against impacts on animals fed irradiated food and the main defect found in the design as well as findings from several tests [25, 26, 27]. Another Identical to our research with a decrease in the percentage of surviving weaned young rats fed a diet that included bacon irradiated by 55,8 k Gy dose had a decrease in percentage in 28.7% of living weaned young people relative to non-irradiated diets [25]. In addition, the FDA and the National Research Council of the National Academy of Sciences partnered with military scientists to encourage new yields for magnificently expanded diets [25]. Animals fed irradiated tests of beef, pork and chicken [28, 29, 30]. The position effects of electromagnetic ionizing radiation, up to cryogenic temperature, on the water content – soluble vitamins niacin, thiamine. Riboflavin is well known in meats [31, 32, 33, 34].

At the other hand, after irradiation as table 7 with gamma rays at a dose of 75 mGy / h for 8 h / day for 30 days and treatment with 400 mg / kg / day sunflower seed oil at the same time, the properties of sperm parameters in group 4 decreased significantly compared to that in group 4. Group1 with 20%. In addition, in three cases of radiation exposure, the values in groups 3 and 4 were lower than the value in group 2 and only orally treated sunflower seed oil in the percentage ratio for valume, concentration and total sperm. The results of this study showed that treatment of normal chickens with sunflower seed oil at a dose of 400 mg / kg body weight resulted in a substantial difference in sperm properties after 30 days, while treating the community with gamma radiation During the analysis of sunflower seed oil, these findings resulted in the protective effect of phenolic antioxidants. This antioxidant is capable of reducing the properties of the sperm damaged by gamma rays and the evolving effects of their ability to handle gamma rays. Free radicals release. However, unimpaired prostaglandin production, which increases flow and changes as an immune modulator Lastly, the results of this study showed that group2 treated with sunflower seed oil had a substantial increase in sperm properties (volume, concentration and total sperm) with parameters of 20%, compared to the control group (group1) received a dose of 400 mg / kg wt at 8 h / day for 30 days in the second cycle who investigated the oral administration of 400 mg / kg wt per day of sunflower seed oil))at several gamma-ray doses for months on animals. The chosen dose of sunflower seed oil in this project is based on this study. They show that the group of mice receiving sunflower seed oil showed a substantial improvement in sperm parameters relative to the control group.

6. Conclusions

Through this study, the effect of radiation at low dose gamma rays with chronic dose levels for 40 days had an impact on the reproductive system, such as the physiological properties of cock chicken semen, hence the building that house poultry must be far from the location of nuclear or nuclear energy laboratories or store radioactive materials even at low energy dose chicken may have an impact because of pollutions. Producing free radicals as H_2O_2 hydrogen peroxide and further killing the double strand of DNA that causes genome mutation. Most research on the effect of low dose intensity radiation on the reproductive system, such as microwave radiation, are known as danger radiation of the same subject. The study showed that sunflower seed oil as an antioxidant with a high vitamin C content has a major role to play in reducing the development of free radicals based on the declared results This substance may be able to reduce the rate of oxidative stress caused by exposure to gamma rays in low doses and therefore this material can be used as a treatment option at the rate of toxins that are generated as a result of low-dose radiation by enhancing protection for long periods. Sunflower seed oil is a healthy preventive factor according to these findings oxidative stress when swallowed by mouth. Therefore we

suggest using a percentage of these seeds in chicken feed mixtures to increase the breeding rate and thus increase the yield of animals after improving sperm properties.

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