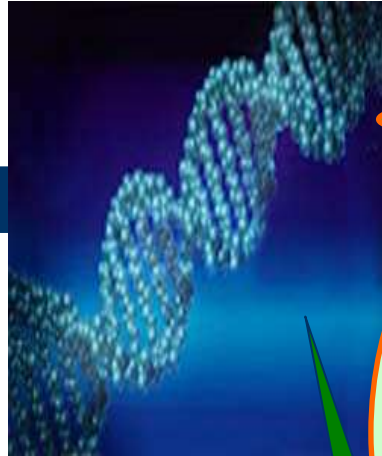


DNA DAMAGE-RELATED GENE EXPRESSION AS BIOMARKERS TO ASSESS LOW DOSE OF RADIATION EXPOSURE

Coretschi L. Ş., associate professor,
Head of the Radiation Biology scientific department
National Centre of Public Health,
Academy of Sciences of the Republic of Moldova,
Chisinau, Republic of Moldova,
e-mail: lcoretschi@mail.ru

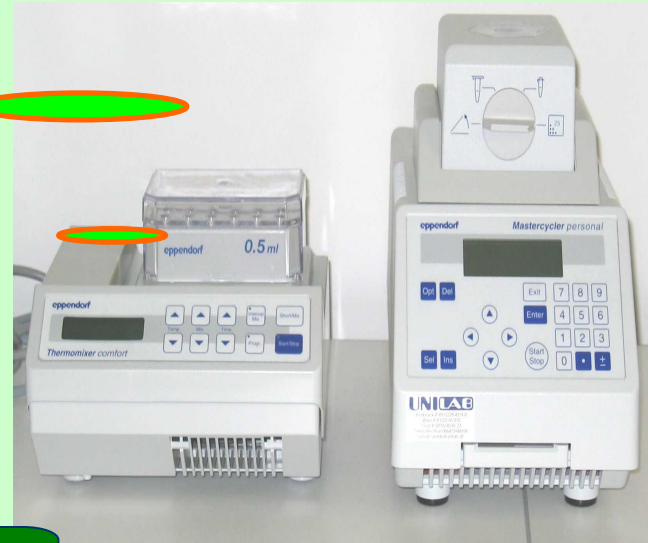


Method and Equipment



RFLP analysis of *16intron/Tag1* loci with determining of presence or absence of restriction site in the group of radiologists from the Oncology Institute (n=54) and in control group have been performed.

Gene
MDD

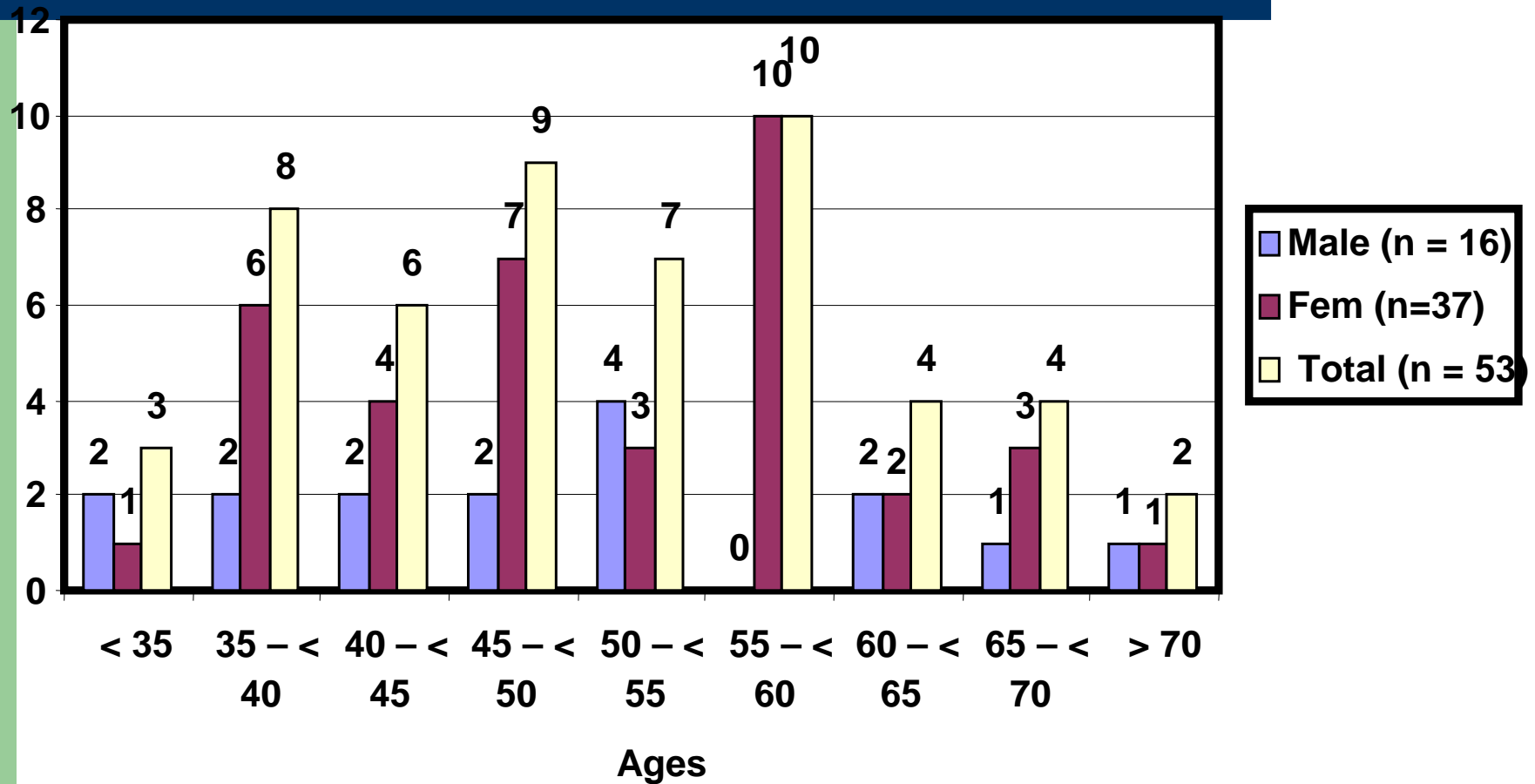


PCR

PCR Thermocycler and
Thermomixer

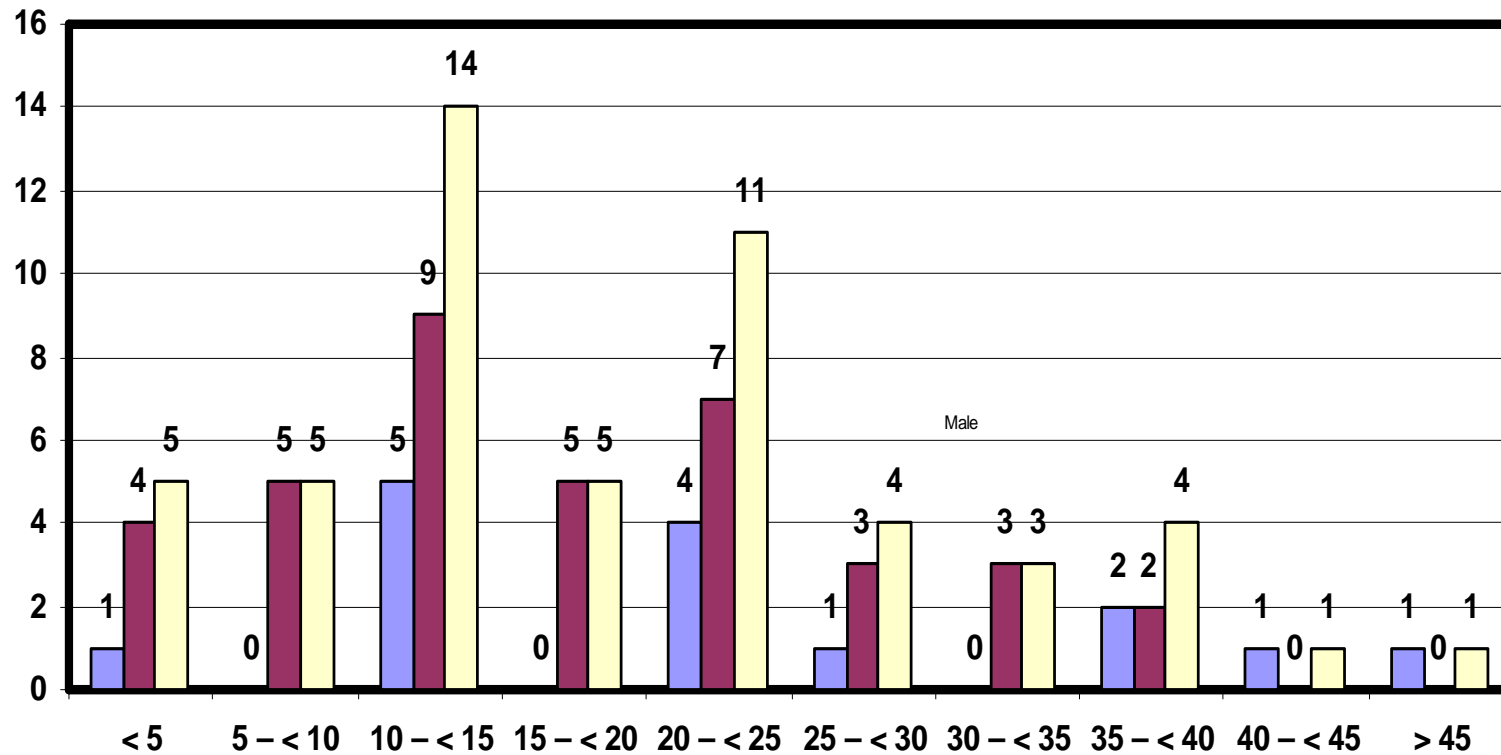
Results

The age of investigated radiologist consisted 30...72



Results

Engaged ages of the investigated radiologists consisted 3...48



Incidence of 16 intron/Tag1 polymorph loci in control population

<i>Loci</i> <i>16intron/Tag1</i>	<i>Allele</i>	
	E1	E2
Nr	50	20
%	71,5	28,5
Frequency	<u>0,715</u>	0,285
χ^2	64,8	

Genotypes of loci 16 intron/Tag1 incidence in female population

<i>Indices</i>	<i>Genotypes</i>		
	E1E1	E1E2	E2E2
Nr	10	5	1
%	<u>60,6</u>	33,4	6,0
Theoretical nr	8,24	6,5	1,3
%	51,5	40,7	0,0812
Allele frequency	0,773		0,227
χ^2	0,37	0,34	0,06

Allelic analysis of 16 intron/Tag1 loci in radiologist population

<i>16intron /Tag1</i>	<i>Male (n = 15) cromozoms – 15</i>		<i>Fem (n = 37) cromozoms – 74</i>		<i>Total (n = 52) cromozoms – 89</i>	
E1/E1	5	33,3 %	4	10,8 %	9	17,3 %
E1/E2	–	–	18	48,6 %	18	34,6 %
E2/E2	10	66,7 %	15	40,5 %	25	48,1 %

Loci 16 intron/Tag1 incidence in radiologist population

<i>Indices</i>	<i>Genotypes</i>		
	E1E1	E1E2	E2E2
Nr	9	18	25
%	17,3	34,6	48,1
Theoretical Nr	6	24	22
%	12,1	45,4	42,5
Allele frequency	0,35		0,64
χ^2	3,36 df = 1, p = 0,05		

<i>Loci 16intron/Tag1</i>	<i>Allele</i>	
	E1	E2
Nr	31	58
%	34,8	65,2
Frequency	q=0,35	p=0,65
χ^2	12,69	

Conclusions

For *16intron/Tag1* system it have been elucidated that the without restriction allele frequency site on «normal» chromosome was 2,0 fold higher than the frequency of this allele on «mutant» chromosome (71,5% in compare with 34,8%) $\chi^2=78,3$, $df=1$, $p<0,01$). In the conclusion it is necessary to mention that there are significant difference in the frequency of the polymorph site *16intron/Tag1* in the group of radiologists in compare with the control group.