RESULTS

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The present work was carried out on 250 cases selected from the Outpatient Clinics of Ophthalmology Department, Benha University Hospital.

All selected cases were subjected to full research sheet, and ophthalmological examination. Corneal swabs were collected from each studied case. All specimens were inoculated on VERO cell line for culture of HSV, and smears were done and stained with papanicolaou stain and direct immunofluorescent stain using labeled monoclonal antibodies.

Our results presented in 13 tables and 15 figures.

Table (1): Sex distribution of cases of herpetic keratitis.

Sex	*No.*	*%*
Males	*140*	*56.00*
Females	*110*	*44.0*
Total	*250*	*100.0*

Table (1) shows that out of the 250 studied cases, 140 (56.00 %) were males, 110 (44.0%) were females.

Fig.(1): Sex distribution of cases of herpetic keratitis.

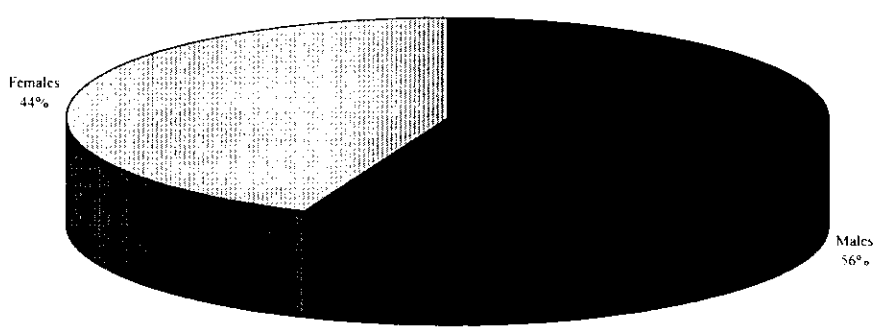

Table (2): Age distribution of cases of herpetic keratitis.

Age groups	No.	%
<10 Y	*10*	*4.0*
11-20	*50*	*20.0*
21-30	*60*	*24.0*
31-40	*80*	*32.0*
41-50	*30*	*12.0*
51-60	*20*	*8.0*
Total	*250*	*100.0*

Range: 1-60 ***Mean***: 30.20 SD: ±12.71

Table (2) shows that cases aged from 1-10 years were 10 (4.0%), 11-20 years were 50 (20.0%), 21-30 years were 60 (24.0%, 31-40 years were 80 (32.0%), 41-50 years were 30 (12.0%), and 51-60 years were 20 (8.0%).

Fig.(2): Age distribution of cases of herpetic keratitis.

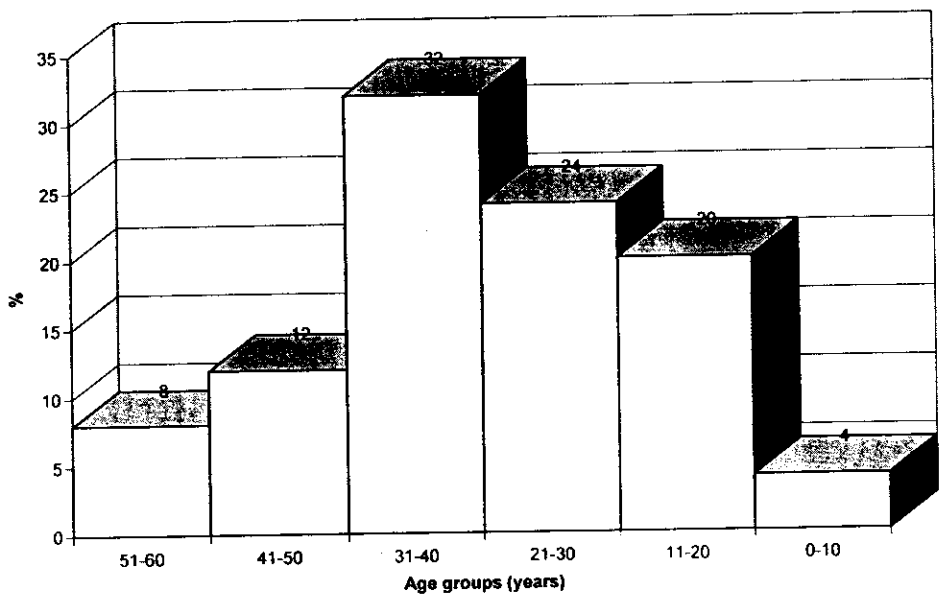

Table (3): Distribution of cases of herpetic keratitis according to recurrence.

Type of infection	No.	%
Primary herpetic keratitis	*114*	*45.6*
Recurrent herpetic keratitis	*136*	*54.4*
Total	*250*	*100.0*

Table (3) shows that, out of 250 examined cases, 114 (45.6%) were primary herpetic keratitis, and 136 (54.4%) were recurrent herpetic keratitis.

Fig.(3): Distribution of cases of herpetic keratitis according to recurrence.

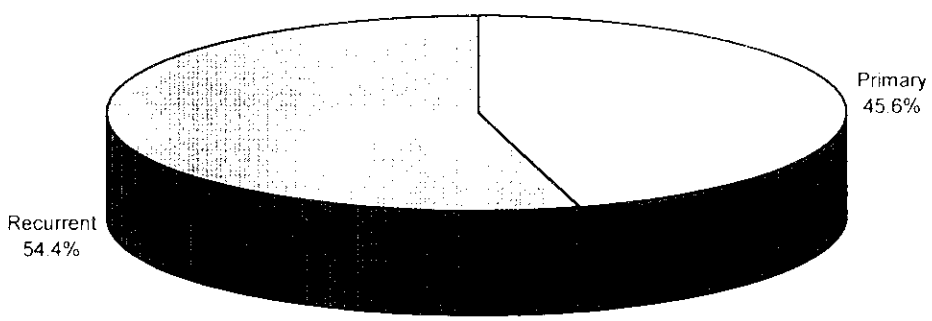

Table (4): Relation between recurrence of herpetic keratitis and sex.

Type of infection \ *Sex*		*Males*		*Females*	
		No.	*%*	*No.*	*%*
Primary	*114*	*70*	*50.0*	*44*	*40.0*
Recurrent	*136*	*70*	*50.0*	*66*	*60.0*
Total	*250*	*140*	*100.0*	*110*	*100.0*

$\chi^2_1 = 2.48$ $p > 0.05$

Table (4) shows that, out of 114 cases with primary herpetic keratitis, 70 (50.0%) were males, and 44 (40.0%) were females. And out of 136 cases with recurrent herpetic keratitis, 70 (50.0%) were males, and 66 (60.0%) were females.

Fig.(4): Relation between recurrence of herpetic keratitis and sex.

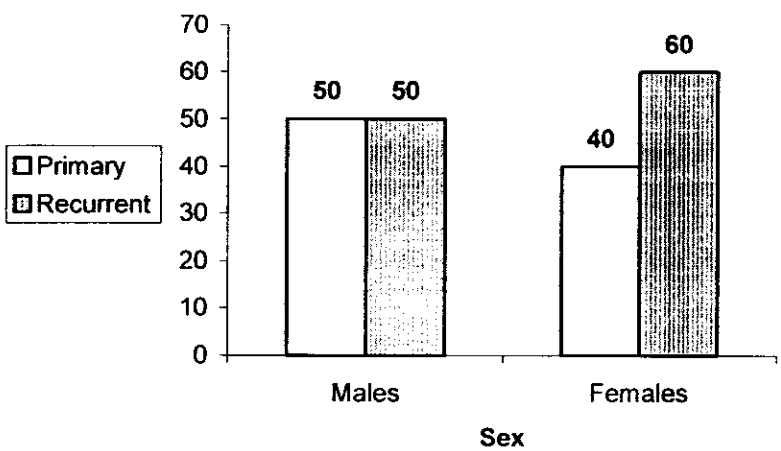

Table (5): Detection of HSV by the different laboratory methods (n=250).

	No.	*%*
Tissue culture	*40*	*16.0*
DFA	*33*	*13.2*
Papanicolaou stain	*20*	*8.0*

Table (5) shows that, out of the 250 examined cases, 40 (16.0%) were positive for HSV by culture on VERO cells, 33 (13.2%) by DFA staining, and 20 (8.0%) by papanicolaou stain.

Fig.(5): Detection of HSV by the different laboratory methods.

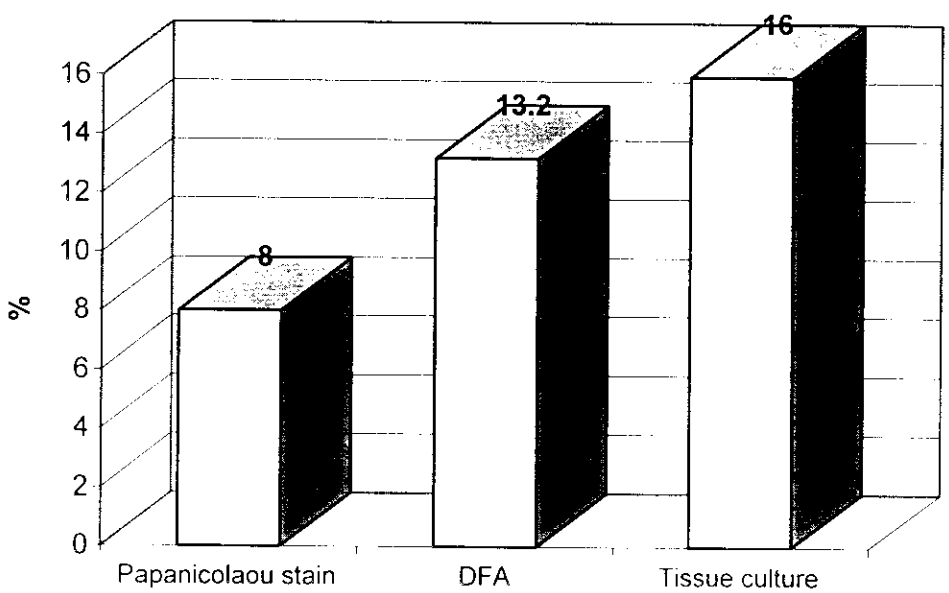

Table (6): Relation between Papanicolaou stain positivity and age.

Age group	No.	+Ve cases	%
<10 Y	*10*	*0*	*0.0*
11-20	*50*	*3*	*6.0*
21-30	*60*	*5*	*8.3*
31-40	*80*	*8*	*10.0*
41-50	*30*	*2*	*6.7*
51-60	*20*	*2*	*10.0*
Total	*250*	*20*	*8.0*

Table (6) shows the number of positive cases by papanicolaou stain corresponding to the different age groups.

Fig.(6):Papanicolaou stain positivity in different age groups.

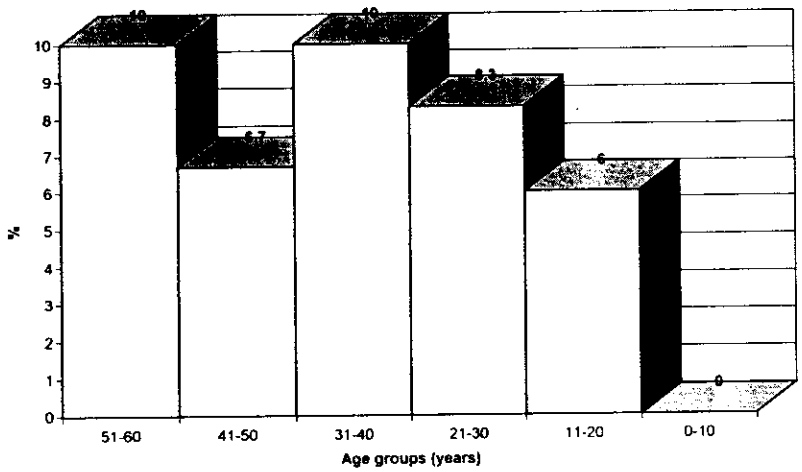

Table (7): Relation between DFA positivity and age.

Age group	*No.*	*+Ve cases*	*%*
<10 Y	*10*	*0*	*0.0*
11-20	*50*	*5*	*10.0*
21-30	*60*	*7*	*11.7*
31-40	*80*	*13*	*16.3*
41-50	*30*	*5*	*16.7*
51-60	*20*	*3*	*15.0*
Total	*250*	*33*	*13.2*

Table (7) shows the number of positive cases by DFA corresponding to the different age groups.

Fig.(7):DFA positivity in different age groups.

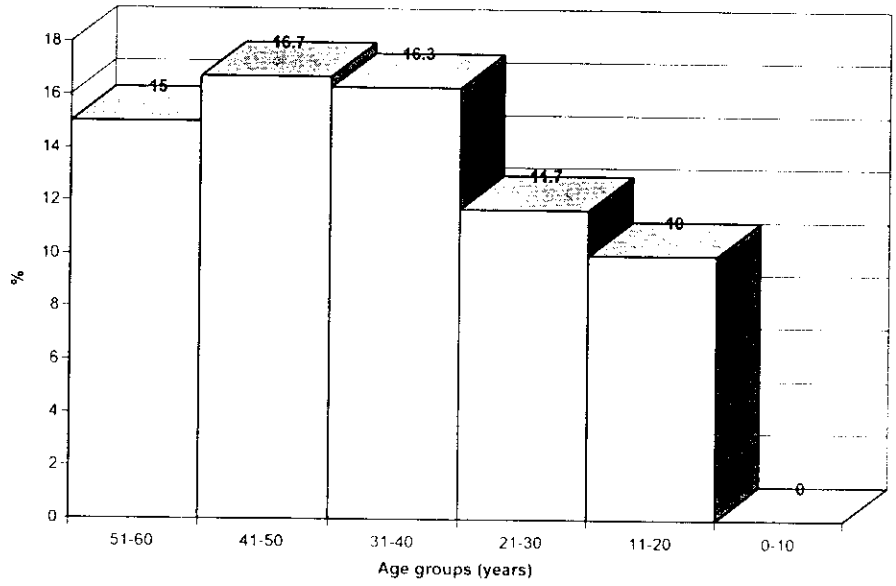

Table (8): Relation between tissue culture positivity and age.

Age group	*No.*	*+Ve cases*	*%*
<10 Y	*10*	*1*	*10.0*
11-20	*50*	*7*	*14.0*
21-30	*60*	*9*	*15.0*
31-40	*80*	*15*	*18.8*
41-50	*30*	*5*	*16.7*
51-60	*20*	*3*	*15.0*
Total	*250*	*40*	*16.0*

Table (8) shows the number of positive cases by tissue culture corresponding to the different age groups.

Fig.(8):Tissue culture positivity in different age groups.

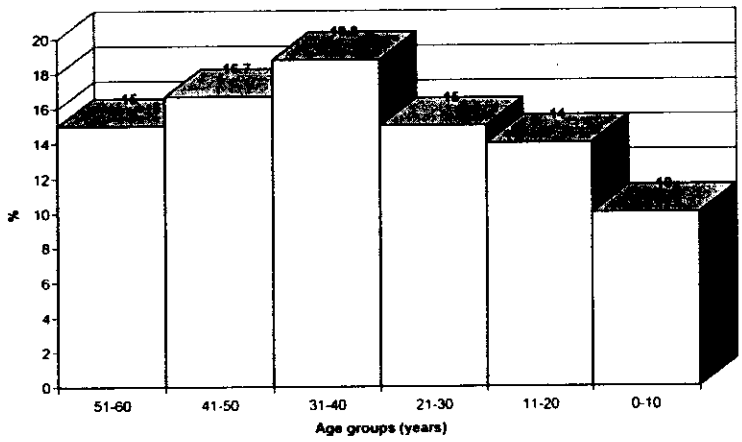

Table (9): Relation between recurrence of herpetic keratitis and Papanicolaou stain.

Papanicolaou stain	Positive		Negative	
Type of infection	*No.*	*%*	*No.*	*%*
Primary 114	*8*	*40.0*	*106*	*46.1*
Recurrent 136	*12*	*60.0*	*124*	*53.9*
Total 250	*20*	*100.0*	*230*	*100.0*

$\chi^2_1=0.28$ $p>0.05$

Table (9) shows that, out of 114 cases with primary herpetic keratitis, 8 (40.0%) were +ve by papanicolaou, and out of 136 cases with recurrent herpetic keratitis, 12 (60.0%) were positive.

Fig.(9): Relation between recurrence of herpetic keratitis and Papanicolaou stain.

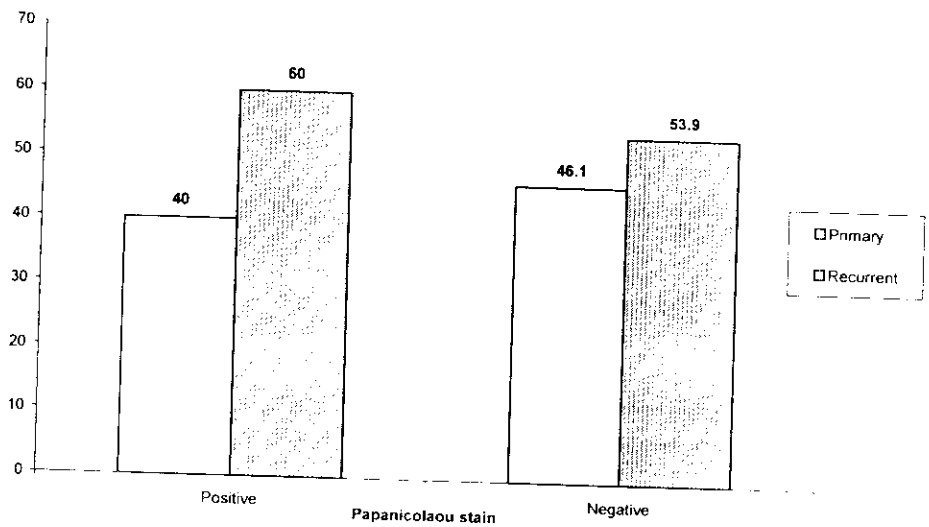

Table (10): Relation between recurrence of herpetic keratitis and DFA.

DFA		Positive		Negative	
Type of infection		*No.*	*%*	*No.*	*%*
Primary	*114*	*11*	*33.3*	*103*	*47.5*
Recurrent	*136*	*22*	*66.7*	*114*	*52.5*
Total	*250*	*33*	*100.0*	*217*	*100.0*

$\chi^2_1=2.31$ $p>0.05$

Table (10) shows that, out of 114 cases with primary herpetic keratitis, 11 (33.3%) were +ve by DFA, and out of 136 cases with recurrent herpetic keratitis, 22 (66.7%) were +ve.

Fig.(10): Relation between recurrence of herpetic keratitis and DFA.

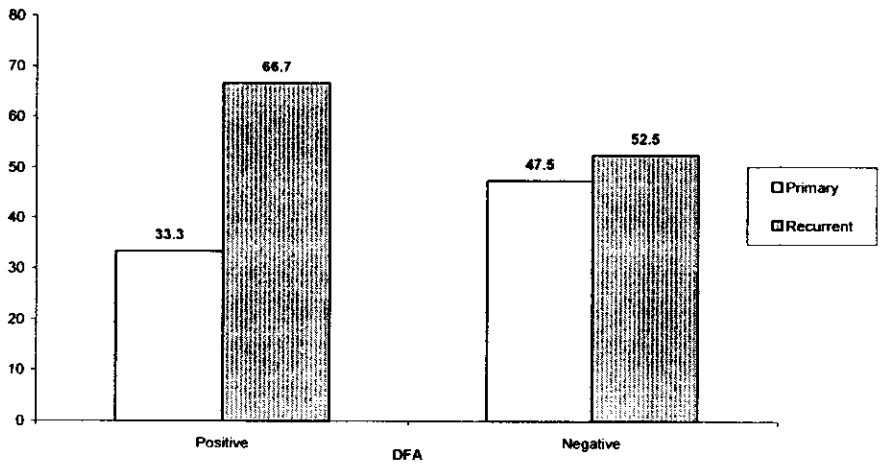

Table (11): Relation between recurrence of herpetic keratitis and tissue culture.

Tissue culture		Positive		Negative	
Type of infection		*No.*	*%*	*No.*	*%*
Primary	*114*	*16*	*40.0*	*98*	*46.7*
Recurrent	*136*	*24*	*60.0*	*112*	*53.3*
Total	*250*	*40*	*100.0*	*210*	*100.0*

$\chi^2_1 = 0.60$ $p > 0.05$

Table (11) shows that, out of 114 cases with primary herpetic keratitis, 16 (40.0%) were positive by tissue culture, and out of 136 cases with recurrent herpetic keratitis, 24 (60.0%) were +ve.

Fig.(11): Relation between recurrence of herpetic keratitis and tissue culture.

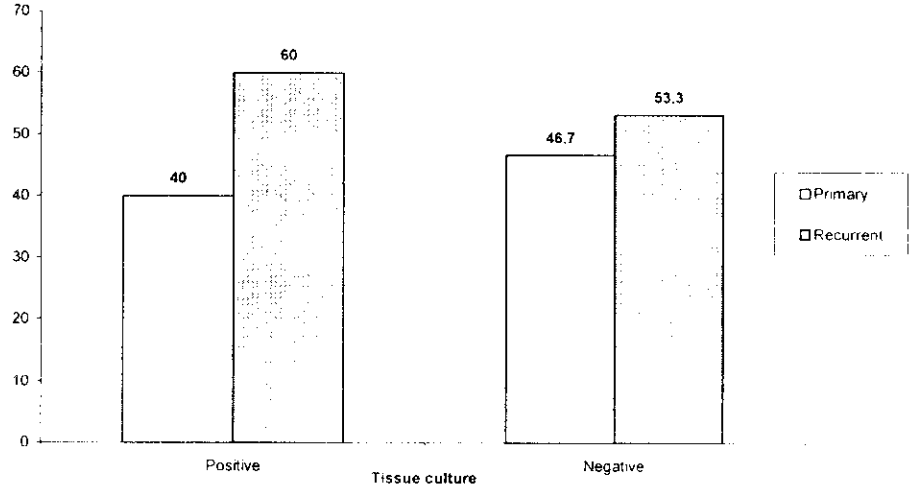

Table (12): Comparison between tissue culture and Papanicolaou stain in detection of HSV

Tissue culture	**Positive**		**Negative**	
Papanicolaou stain	*No.*	*%*	*No.*	*%*
Positive	*14*	*35.0*	*6*	*2.9*
Negative	*26*	*65.0*	*204*	*97.1*
Total	*40*	*100.0*	*210*	*100.0*

$\chi^2_1 = 47.17$

Ref. Test is tissue culture

Sensitivity=35.0% **Specificity=97.1%**
PPV=70.0% **NPV=88.7%**
Accuracy=87.2%

Table (13): Comparison between tissue culture and DFA in detection of HSV

Tissue culture	**Positive**		**Negative**	
DFA	*No.*	*%*	*No.*	*%*
Positive	*24*	*60.0*	*9*	*4.3*
Negative	*16*	*40.0*	*201*	*95.7*
Total	*40*	*100.0*	*210*	*100.0*

$\chi^2_1 = 91.05$

Ref. Test is tissue culture

Sensitivity=60.0% **Specificity=95.7%**
PPV=72.7% **NPV=92.6%**
Accuracy=90.0%

Fig. (12) Positive HSV by papanicolaou stain, High Power.

Fig. (13) Positive HSV by papanicolaou stain, Low Power.

Fig. (14) Positive HSV by Immunofluorescence.

Fig. (15) Positive HSV on VERO cell culture