

Comparative findings of oncogenic cervical risk and its follow-up in two different periods 1982-1999 and 2000-2007

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Summary

During the 2000-2007 period, my group and I reviewed the cases of 3,036 patients undergoing routine colposcopies, cytology and cervical biopsies for those cases that merited it, and a 20% increase was found in lesions defined as dysplasias as compared with those found in the studies of the previous century. This is something that reaffirms the association with HPV by 96.5% versus 80% the last century. In relation to HPV infection, we found that the "pure" form was not only reached but rather surpassed by the findings associated with cancer and dysplasia in the years 2005-2006, a behavior considered irregular as compared to the usual.

The majority of the patients were guided toward conservative local treatments, among which cryosurgery and cauterization prevailed as choices, and their evolution resulted in an 81% cure (considered as destruction of the lesion and negativity of the cytology and eventual biopsy). It can be concluded that the high vulnerability of the virus, in spite of its great aggressiveness as an oncogenic risk (OR) to a cervical-uterine lesion, can be supported by the high degree of lesions diagnosed by OR.

Key words: Oncogenic risk; Incidence; Degree of pathology; Evolution.

Introduction

From 1982 to 2007 we reached coverage of 11,112 patients, performing 23,033 colposcopies, 22,504 colpocytologies and 5,587 directed biopsies. Of these patients, we selected those who attended in the 21st century, examined in the capital city and coming from all the provinces of the Republic of Panama, and those selected during a medical tour to the Pocri community in Los Santos Province in order to compare findings with the patients who attended between 1982 and 1999 (Table 1).

Between the years 1982 and 1999, our group took care of 8,076 patients and 3,737 patients in the 21st century, to whom we applied direct colposcopy, sample collection for cytology, extended colposcopy with sequential application of acetic acid, Lugol solution and the application of sodium bisulphite, followed by an eventual biopsy directed immediately or programmed for a later date [1-4].

Table 1. — *Periods of study.*

	Years		
	1982-1999	2000-2007	1982-2007
Patients	8,076	3,036	11,112
Colposcopies	15,338	7,695	23,033
Cytologies	14,897	7,607	22,504
Biopsies	4,029	1,558	5,587
OR	4,439	1,567	6,006
OR %	56%	52%	54%

OR: oncologic risk.

Materials and Method

During the 25 years of study we evaluated 11,112 patients, of which 3,036 were evaluated between 2000 and 2007; 7,695

cytologies were carried out and 1,558 histological studies or directed biopsies were performed.

It should be pointed out that more than 50% of the population that attended came out of health management or as a result of health controls. In these cases we applied routine colposcopies and risk diagnosis was reached, with negative cytology in a significant number of them.

In other cases, the study was carried out applying selective colposcopy, as a consequence of cytologies that were clearly pathological or from referrals of clinical cervical lesions at risk and lastly, to those patients with three or more repetitive cytologies due to inflammatory alterations.

The colposcopy study was carried out respecting the usual steps of direct and extended colposcopy, to which the application of sodium bisulphite was added as a last step. Cytology was taken as a first step, before carrying out extended colposcopy in the cases of routine colposcopy, and an immediate biopsy when faced with an image or pathological picture, whereas on selective cases the colposcopy and the directed biopsy were directly and immediately carried out [5].

Once the diagnosis of oncogenic risk (OR) was reached, the patients were guided to conservative treatments in the majority of cases or they were referred to their physicians. All patient data were recorded regarding their diagnosis, treatment and follow-up, as this is the only means to determine the effectiveness of the treatments, i.e., the hypothetical prognosis and/or the real one, and to avoid progression toward cervical-uterine cancer.

Results

From the 3,773 patients who attended in the 21st century, 3,036 patients were new cases and the rest had already been visited.

Even though the total OR incidence was 56% and 52%, respectively for the period 1982-2000 and 2000-2007 it was observed that the breakdown of the different pathologies underwent significant changes, with a marked decrease of HPV infection in its "pure" form of 18%, and

of cancer by 2%, whereas dysplasias increased by 19.5%, and in colposcopic lesions only there were no changes (Table 1). HPV diagnosis in totality (pure or associated to dysplasia or cancer) comparatively maintained its incidence for the three evaluated cycles I/II/III (85.5% - 84.4% - 85.3%, respectively) (Table 2).

Table 2. — *Comparative findings of oncogenic risk (OR) from 1982-2007.*

Findings	Periods (years)					
	1982 - 1999		2000 - 2007		1982 - 2007	
HPV	3,160	71%	834	53%	3,994	66.5%
Dysplasias	550	12.4%	500	31.8%	1,050	17.4%
Cancers	175	3.9%	31	1.9%	206	3.4%
Pure OR	548	12.3%	196	12.5%	744	12.5%
Herpes virus	6	0.1%	6	0.2%	12	0.2%
Total OR	4,439	55%	1,567	51.6%	6,006	50.1%
Total HPV	3,799	85.5%	1,330	84.4%	5,129	85.3%
						46.0%

OR: oncologic risk.

Likewise, when we reviewed the influence of HPV on OR, we realized that for the 21st century it had increased by 20%, for those cases associated with dysplasia or cancer, and its influence in this association was almost exclusively in the genesis of the dysplasias or in association with them by 96% (Table 3).

Table 3. — *Behavior of HPV and/or associated disease.*

Findings	Periods (years)					
	1982 - 1999		2000 - 2007		1982 - 2007	
HPV	3,160	83%	834	63%	3,994	78%
HPV assoc.	639	17%	496	37%	1,135	22%
Dysplasia	514	80%	476	96.2%	990	87%
Cancer	125	20%	20	3.8%	145	13%
	3,799		1,330		5,129	

HPV infection, in spite of a decreased incidence with 834 cases, had a significant 20% increase in associated cases, which we demonstrated in our annual analysis that in the years 2005 and 2006 the associated HPV cases surpassed HPV only, and these are considered as “crossroads between these two HPV forms” [6].

We dedicated special attention to OR in the 21st century, as its behavior is most particular. The greatest contribution came from the new patients (86.3%), followed by the patients already in the study and without pathology up to now (8.4%), and lastly from those patients who progressed to a greater degree of pathology (5.2%).

The pathologic diagnosis of studied cases between 2000-2007 was: HPV only 53.2%, dysplasias 31.9%, cancer 2%, the colposcopic pathology (OR) 12.5% and finally herpes 0.4%. These numbers indicate that dysplasias increased in such a marked way to the point of surpassing the cases of HPV only in the years 2005 and 2006, but keeping the proportions with reference to the mild, moderate and severe cases, respectively with 313, 153 and 39 cases (Table 4) [7, 8].

Table 4. — *Annual incidence of pathologies in patients with OR (2000-2007).*

Pathology	Periods (years 2000-2007)									Total	%
	00	01	02	03	04	05	06	07			
Colposcopic pathology (OR)	41	41	45	40	20	17	15	20	239	12.5	
Herpes	1	2	1	1	0	1	0	0	6	0.4	
HPV	93	58	140	219	111	112	66	68	867	53.2	
Mild dysplasia	19	11	31	53	11	70	75	43	313	31.9	}
Moderate dysplasia	6	1	14	25	17	34	34	22	153		
Severe dysplasia	3	4	5	6	4	5	10	2	39		
In situ carcinoma	1	3	5	5	1	5	0	1	21	2	}
Invasive carcinoma	3	0	0	5	0	0	0	0	8		
Adeno carcinoma	1				1				2		
Total	168	120	241	354	165	244	200	156	1,648		

These results compared with those published in 1993 demonstrate an elevated increase in pathological lesions.

The majority of patients underwent conservative local treatments, 59% of them corresponding to cryotherapy, 32% to cauterizations and 9% to others, for a total of 814 patients, equivalent to 52% of the patients with OR in this century (Table 5).

This treatment has been applied since 1990 [9].

Table 5. — *Local conservative treatments.*

Types of treatments	00	Periods (years 2000-2007)								Total	%
		01	02	03	04	05	06	07			
Cryotherapy	18	28	62	83	47	110	70	60	478	59	
Cauterization	58	4	62	75	18	17	11	13	258	32	
Others		27	17	12	5	1	8	8	78	9	
Total	76	32	124	158	65	127	81	73	814	100	

Patients with OR whose follow-up was carried out to the year 2007.

The follow-up of patients with known evolution allows us to know and compare their responses to local treatments, which in 2007 corresponded to a cure in 81% of the cases, considered as clinical disappearance of the lesion, negativity of the cytology and/or histology to improvement in 6% of the cases, persistence in 6.1% and progression in only 1.6%. Such numbers are the ones found in patients evaluated in the year 2007 and correspond to all patients with OR in the 25 years of the study (Table 6).

Table 6. — *Evolution of patients with OR.*

	Periods (years 2000-2007)								
Evolution	00	01	02	03	04	05	06	07	%
Cure	214	243	238	273	223	262	424	402	81
Improvement	24	44	30	26	46	47	40	30	6
Persistence	15	18	8	33	35	25	46	33	6.1
Reccurrence	3	6	12	26	29	17	21	23	4.6
Progression	5	9	4	15	15	14	15	8	1.6
Total cures	261	320	292	373	348	365	546	496	
%	82	76	81.5	73	64	72	72	81	

Discussion

The natural history of cervical-uterine cancer, as well as that of HPV infection, has experienced significant changes in the last 50 years, including the precociousness of appearance and the degree of the pathological lesion to its fast evolution. Cures, represented by eradication of clinical lesions in association with negative cytologies and/or histologies, reach excellent numbers because of strict follow-up colposcopic pathology, indicating and justifying that the preventive measures applied in our population are valid [10]. In spite of findings of a greater degree of the dysplastic pathology, we accomplished destruction of the lesions with accurate local conservative treatments demonstrated by the follow-up of these patients, which could translate into a greater vulnerability of HPV and its effect on the uterine cervix. The national policy regarding cervical-uterine cancer should be updated and its application periodically monitored to either confirm or make the necessary changes to avoid inertia and thus save lives [11-15].

Conclusions

In spite of findings of a greater degree of dysplastic pathology, we accomplished destruction of the lesions with accurate local conservative treatments demonstrated by the follow-up of these patients, which could translate into greater vulnerability of HPV and its effect on the uterine cervix.

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