IS ELECTRODIATHERMY COAGULATION (EDC) OF CERVICAL ECTROPION EFFECTIVE IN THE PREVENTION OF CERVICAL CARCINOMA?

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SUMMARY:

The Authors report their experience on the treatment of cervical ectropion by electrodiathermy coagulation (EDC).

The effectiveness of this therapeutic approach in the prevention of cervical carcinoma is examined.

Finally, it seems that this treatment can be a preventive measure of the precancerous lesions of the cervix, while it results unjustified the EDC treatment of cervical ectropion and TRZ.

From the beginning of this century electrodiathermy coagulation (EDC) of the cervix was used in the treatment of the so-called "erosions" or chronic cervicitis in the hope that such practice could be efficiently in the prevention of cervical carcinoma.

Many publications reported a great number of cases in which the incidence of cervical carcinoma was less than the control group in women treated with EDC [1, 2].

To explain these results, the most frequent hypothesis, was that through the elimination of the chronich inflammation the cancers stimolus was eliminated as well [6].

The EDC could act in prophylactic way by early destruction of the areas of cervical intraepithelial carcinoma (CIN) from which the invasive carcinoma can subsequently develop [2].

Our knowledge about anatomic and functional characteristics of the cervix have deeply changed in the last years, so that the old terms "erosions" and "chronic cervicites" are nowadays anachronistic [3]. The cervix is considered a dynamic organ, which undergoes several structural changes during the life [4].

It is normally constituted by four types of epithelium:

1) the original or the native squamous epithelium, that is identical with the lining epithelium of the vagina;

2) the cylindric endocervical epithelium which in the fertile age pouts outwards from the cervical canal for the physiological increase due to the hormonal stimulation. That constitutes the so-called "ectropion", which in some cases, can be also congenital;

3) the reserve epithelium, made by one or more layers of indifferentiated cubic cells, under cylindric epithelium;

4) the metaplastic epithelium, which derives from the differentiation and proliferation of the reserve epithelium, mainly due to the law vaginal pH, which is hostile

Table 1. — *Patients' age.*

Age	No. cases	%
⩽ 19	1	0.3
20-29	42	14
30-39	103	34.3
40-49	103	34.3
50-59	40	13.3
⩾ 60	61	7

to the persistence of the cylindric epithelium.

The erythroplachia zone, which in the fertile age often surrounds the external os of the cervix, most part of cases are due to the extroversion or ectropion of the endocervical mucosa, that is supported by mechanical elements, such as the sexual traumas and the delivery. Frequently this picture is joined by metaplasia process, which is responsible of the rising of the colposcopic aspect called Riepithelization typical zone (RTZ).

In the light of these foundamental acquisitions, we have asked ourselves whether it is right to treat portios, which can be considered healthy according to the age and to the obstetrics story of the woman with the EDC as still nowadays is usually and frequently done in the public and private consulting room.

This doubt rises also from the fact that the EDC has some complications:

— it can damage the cylindric epithelium which produces the cervical mucous which is important for the fertility;

— it can cause the cicatrized stenosis of the external os of the cervix (OUE);

— it can cause the ascent of the squamocolumnar junction of the cervical canal, so that it precludes the subsequent oncological control with the PAP-Test and the colposcopic examination;

— it can cause the rising of the cervical endometriosis.

MATERIAL AND METHOD

In 1982, 2201 patients have been examinated in the colpocytological consulting room of our clinic. Three hundred women aged between 18 and 66 years, the mean age of the group was between 30 and 49 years, had been treated with EDC for cervical ectropion and typical riepithelization zone (RTZ) (table 1).

The treatment had been performed between 6 months and 20 years before and in some cases (10%) it was repeated once or twice (in one case eleven times) because it was considered not satisfactory.

All patients were submitted to cytologic and colposcopic examination and in some cases (1.6%) biopsies, with colposcopic control, were carried out.

RESULTS

As it is shown in table 2, the cytologic examination was negative in 98.66% of the cases; a mild dysplasia (CIN 1) was pointed out in 1% of the cases, and a

Table 2. — *Cytologic, colposcopic and histologic findings in patients submitted to cervical E.D.C.*

Cytology	No.	%	Colposcopy	No.	%	Histology	No.	%
Negative	295	98.66	Normal cervix	147	49	Mild dysplasia	3	1
CIN 1	3	1	Ectopy	66	22	Mod. dysplasia	1	0.3
CIN 2	1	0.3	T.R.Z.	70	23.4	Diff. adenoca.	1	0.3
Adenoca.	1	0.3	A.R.Z.	10	3			
			A.T.Z.	5	1.6			
			Polypuses	7	2.3			
			Vascular outcomes	16	5.3			
			Cicatrizial outcomes	65	21.6			
			Endometriosis	12	4			

Table 3. — *Incidence of A.R.Z., A.T.Z. and cervical carcinoma in women examined in 1982.*

	A.R.Z.	%	A.T.Z.	%	Ca.	%
Women submitted to E.D.C. (n. = 300)	10	3	5	1.6	1	0.3
Women not submitted to E.D.C. (n. = 1901)	35	1.8	15	0.7	8	0.4
Total	45	2.09	20	0.9	9	0.4

moderate dysplasia (CIN 2) in the 0.3%; a cervical adenocarcinoma has been diagnosed in one case (0.3%). The results of the colposcopy were: normal cervix in 49% of the cases, ectropion in 22%, RTZ in 23.4%. The clinical pictures which are really considered normal or physiological are 97.4%.

The incidence of the ARZ has been observed in 3%, while the ATZ (atypical transformation zone) has been diagnosed in the 1.6% of the cases.

Punch biopsies, under colposcopic control have been performed in ATZ because it is a suspicious lesion in which usually the scraping is positive for displasia.

The hystological examination showed 3 mild displasia (CIN 1), 1 moderate displasia (CIN 2), 1 differentiated adenocarcinoma.

The results of the cytological, colposcopic and hystological examinations, in these cases, perfectly agreed.

Others lesions, observed by colposcopic examination, except cervical polyps, are clearly related with the preceding EDC: we refer to vascular alterations (5.3%), characterized by the presence of rows of hairpin capillary vessels, surrounded by white epithelium [3]; to cicatrix (21.6%) with various colposcopic aspects, from the stable cicatrix without any particular characteristics to the presence of radiated cicatrized plicae; to the more or less close stenosis of the external os of the cervix; finally we pointed out that the incidence of cervical endometriosis was 4% (tab. 2).

The results obtained by the examination of all the colposcopies and scrapings carried out in our clinic in 1982, are described in table 3. In that table we compare the lesions present in women previously treated with EDC with all the cases of the same year.

DISCUSSION

The results we have achieved are in complete disagreement with the publications mentioned in the introduction [1, 2], according to which the EDC could be a preventive measure of the cervical carcinoma.

In fact, from the inspection of the results, the incidence of the displastic lesions and of the carcinoma, definitely do not speak in favour of the EDC.

A limit of our study can be the fairly low number of treated patients we have examinated. Therefore we intend to extend this preliminary survey in the future. We have also to point out that the prophylactic action of the EDC may have been reduced by the use of a rough technique. In fact the women we have examinated were treated mainly in private consulting room, where usually there is not a colposcope, which is essential for a complete treatment [5]. Recently in this connection, it has been pointed out that the acetic acid test can be an alternative guide to carry out directed punch biopsy (on suspicious lesions) in the absence of the colposcope [6]. In the dysplasia and the *in situ* cancer observed in our study, should be attributed to a rough technique, we could obviate with a more accurate technique. This could reduce the incidence of the outcomes and complications

we observed in a high percentage in comparison with other Authors ([7, 9]).

Since the most of pathologic anatomists deems the ectropion and the TRZ physiological, in relation to age and parity of the woman, we ask ourselves if the EDC is justified in all cases.

Since a badly done EDC has no value from a prophylactic point of view, therefore it remains to investigate whether a well done EDC can give better results than an oncological screening carried out throught cytology and colposcopy.

In this time in which the economic crisis subjects to criticism the yearly screening too ([10]), we think anachronistic and expensive the EDC of the ectropion and TRZ, which are physiological pictures and hence need no therapy, unless they are affected by phlogistic complications.

Therefore we believe that in some women with recurrent vaginitis or leucorrhea the EDC has a value only as symptomatic or placebo treatment. The EDC seems to be advisable if it is correctly carried out, in the treatment of the precancerous lesions of the cervix, where nowadays we tend to the most conservative treatment expecially in reproductive age ([8, 11, 12]).

In this regard, the results of the EDC do not seem to be worse than those obtained with more recent and expensive techniques such as the cryotherapy and the lasertherapy ([13, 14]).

REFERENCES

1) Peyton F. W., Rosen N. A.: *Obst. Gyn.*, *86*, 111, 1963.
2) Richart R. M., Sciarra Y. Y.: *Am. J. Obst. Gyn.*, *101*, 200, 1968.
3) Kolstad P., Stafl A.: *Atlante di colposcopia*, Piccin Ed., Padova, 1981.
4) Peroni M.: *Colposcopia e fisiopatologia cervico-vaginale*, Elli and Pagani, Milano, 1980.
5) Russo A.: *Min. Ginec.*, *12*, 159, 1960.
6) Ottaviano M., La Torre P.: *Am. J. Obst. Gyn.*, *143*, 139, 1982.
7) Natale N. *et al.*: *Min. Ginec.*, *27*, 408, 1975.
8) Chanen W., Hollyock V. E.: *Obst. Gyn.*, *43*, 527, 1974.
9) Musset R. *et al.*: *Rev. Franç. Gyn. Obst.*, *68*, 197, 1973.
10) Canadian Task Force: *Can. Med. Assoc. J.*, *114*, 1103, 1976.
11) Singer A., Wolker P.: *Br. J. Obst. Gyn.*, *89*, 335, 1982.
12) Thompson B. H. *et al.*: *Am. J. Obst. Gyn.*, *114*, 329, 1972.
13) Chanen W., Hollyock V. E.: *Obst. Gyn.*, *37*, 623, 1971.
14) Jordan J. A. *et al.*: *Preclinical neoplasia of the cervix.* Proc. Study Group, RCOG, London, 1982.