ON THE DEVELOPMENT OF COLPOSCOPY IN CROATIA

to mark the upcoming 15th anniversary of the First Croatian Colposcopy Course

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INTRODUCTION

While preparing for and during the course of the First Croatian Colposcopy Course held on 20 June 1998 in Zagreb, I thought about how to present an overview of historical milestones in the development of colposcopy in Croatia (Fig.1). We prepared that colposcopy course encouraged by the growing increase in the number of women with cytological atypia of the cervix and lower genital tract and the growing interest in colposcopy in everyday practice. Judging by the general impression and the results of the survey taken by 40 colleagues who were present, that course contributed to the revitalization of the basic topics with which colposcopy training begins (contemporary views on colposcopy, pathohistology, cytology and epidemiology).

On the other hand, in the course of preparation and organization of the course, a unique opportunity presented itself to obtain important information about the beginnings of the application of colposcopy in Croatia from the memories and experiences of our teachers, mentors and senior colleagues on the basis of a simple questionnaire, respecting the saying...
“Scripta manent, sed verba volant”. Other important events that formed the background of that course were the pending round anniversaries: the 125th anniversary of the Croatian Medical Association (1874 -1999) and the 75th anniversary of the beginning of the application of colposcopy in clinical practice (1925 - 2000). I was greatly pleased even then, and that still hasn’t changed. By recapitulating what has been done, I have expanded my understanding of the development of colposcopy in Croatia and recorded the extensive experience of my distinguished predecessors so that the younger generations could find encouragement in further training in colposcopy.

CONTINUUM IN THE APPROACH TO COLPOSCOPY IN CROATIA

Looking back on the development of colposcopy in Croatia, the distance travelled was neither easy nor simple. Perseverance of the generations before ours kept colposcopy alive, and it is up to our generation and the younger ones to do continuous training in colposcopy.

The basic data on which we based our plans in the early years of the Croatian Society for Colposcopy and Cervical Pathology of the CMA and during the first continuous education courses were that from a paper by Dražančić et al. presented on 26 November 1996 at the scientific symposium on the “Early Diagnosis and Treatment of Cancer of the Female Reproductive System” (1). From it, it was visible that it would take almost three years to cytologically examine the female population in Croatia (around 2,000,000 women) in ideal conditions. Counting on 2.5% of cytological abnormalities, that would be close to 50,000 women in three years who required colposcopy as a method of intermediate screening and secondary prevention of neoplastic changes of the cervix and lower genital tract.

On the other hand, we found fresh impetus in a paper by Strand and Znaor (2). We found reasonable the paragraph which shows that the number of Pap smears in Croatia stood at
355,667 (25,861 or 7% of which pathological) in 2001. If as many colposcopic examinations had to be done in that case, it is evident how challenging a task that would be for the 600 gynaecologists in Croatia. A comprehensive approach and procedure are needed in the treatment of such a great estimated population of women. Znaor (3) recapitulates: in Croatia, the opportunistic Pap test screening started in the 1950s, which resulted in a significant decline in the incidence of and mortality from cervical cancer until the early 1990s when the trends stabilized. Today, 370 women on average contract cervical cancer and 100 women die of it annually. A programme for the early detection of cervical cancer that would encompass all Croatian women aged between 25 and 64 has been proposed. In the first stage of the programme, Pap testing would be conducted every three years, and in the second stage, HPV testing for women older than 30 (3) would be introduced. There has been a proposal to organize the programme at the county level, while the evaluation and monitoring of the programme would be conducted both at the county level and centrally. Given the current cost of treatment and sick leave of women treated for cervical cancer, it has been estimated that the introduction of a programme for screening cervical cancer in Croatia would be cost-effective after the first ten years (3).

The everyday, ever-increasing pressure on the colposcopy units in clinics and clinical departments of Zagreb and other major medical centres (Split, Rijeka, Osijek, Sisak) led to a consensus which facilitated the First Croatian Course in Colposcopy and Cervical Pathology on 20 June 1998, with a generally accepted programme. The response of our colleagues from the younger generation, as well as emeriti of Croatian gynaecology, who were sympathetic to the position and role of colposcopy in the early diagnosis and prevention of premalignant lesions of the cervix and lower genital tract, was a remarkable incentive. All this positive energy resulted in the establishment of the Croatian Society for Colposcopy and Cervical Pathology of the Croatian Medical Association on 20 January 2000, thanks to the support of
colleagues from both our mother clinic and from partner institutions that find continuous
development of colposcopy important. The society is nominally based at the Department of
Obstetrics and Gynaecology of the Sisters of Mercy University Hospital (called Sisters of
Mercy Clinical Hospital at the time when the society was established) in Vinogradska 29. On
25 November 2000, the new society successfully organized a symposium on the “Problems
and Dilemmas in the Early Diagnosis and Treatment of Suspicious Cervical Changes” to mark
the 75th anniversary of colposcopy in clinical practice. At the end of the symposium, an
adjusted protocol in the diagnosis and treatment of patients with cytological atypia of the
cervix was adopted. I am obliged to point out that, in accordance with the experience of
colposcopic societies whose work we had the opportunity to observe (Italian, French, Polish,
British, Austrian and German) and insight into the Croatian epidemiological data, we have
held first-level postgraduate courses on the “Role of Colposcopy in the Early Diagnosis of
Preinvasive Changes of the Cervix and Lower Genital Tract”. To be more precise, ten courses
were held in Zagreb from 2001 to 2011, one international course in Cavtat in 2007, one in
Split in 2002 and one in Osijek in 2006.
Gynaecological cytodiagnostics is the first screening method, and colposcopy is used on the
population of women with abnormal cytological findings, lower genital tract infections and
suspicious erythroplakia visible to the naked eye. Based on the colposcopic examination and
keeping in mind that cytology and colposcopy are complementary, rather than competing
methods, either a conservative or a surgical procedure is chosen, following the principle of as
least invasive treatment as possible because severe cytological abnormalities are encountered
in the ever-younger female population.
During the First Croatian Colposcopy Course we considered the adjusted diagnostic and
therapeutic protocol for premalignant changes of the cervix (4), and during the symposium
devoted to the 75th anniversary of the application of colposcopy in clinical practice we
adopted it and decided when HPV typing should be done. Even then, we emphasized the importance of establishing a dysplasia unit as the first step towards a comprehensive approach.

Among the papers by local authors who have preserved the continuity of colposcopy, it is necessary to mention the following:

In 1980, Kraus et al. (5-7) described the colposcopic changes in the cervix associated with HPV infection (capillary image resembling a rosette and the need to pathohistologically verify any such change).

Milojković et al. (8-10) did a complex study of a group of patients with a HPV infection of the cervix, achieved greater diagnostic accuracy and recommended that all women with a HPV infection of the cervix should be classified into risk groups and that appropriate therapy and monitoring should be implemented.

HPV infections almost require a separate chapter, and in this paper they are referred to as a clinical problem that the abovementioned colleagues noticed and dealt with almost synchronously with European achievements.

Continuous campaigns for physical examinations of women in order to reduce preclinical and clinical cervical cancer have shown their worth, so the “Medveščak Campaign”, due to which the incidence of CIS detected in women aged between 20 and 29 fell from 5.3 / 1,000 in 1966 to 1.5 / 1,000 in 1976 (11), is still famous in Zagreb today. Building on these experiences, it should be pointed out that such well-documented campaigns are encouragement for each gynaecological practice to also be a place for the early detection of cervical neoplastic processes. More than four decades later, on the basis of a critical mass of acquired knowledge and skilled personnel, a draft for the National Programme for the Early Screening of Cervical Cancer was adopted (12), which serves as a starting point to move into a new target population between 2012 and 2020.
In 1977, Kanajet and Grubišić (13) dealt with a clinically treated female population using colposcopy in patients with cytological atypia of the cervix and sensed a biological continuum in the development of cervical intraepithelial neoplasia. They found confirmation of the definite malignant potential of cervical carcinoma in situ in a paper by McIndoe et al. (14). This experience gives lasting impetus to the comprehensive treatment of women with the most severe atypia of the cervical epithelium, with colposcopy being of the utmost importance.

In a prospective study on the biological behaviour of milder and more severe CIN, Milojković et al. (15-17) pointed out that the time of progression from CIN II to more severe stages is shorter than from CIN I. That information is entirely congruent with the data obtained from the aforementioned paper by McIndoe et al.

Proper application of cytology, colposcopy and targeted biopsy increases diagnostic accuracy, prevents unnecessary conisation, shortens the monitoring period for patients who need conisation and reduces the cost of detection of pre-malignant lesions and early carcinoma. That is why colposcopy with targeted biopsy is an obligatory intermediate screening method for all patients diagnosed with cytological dysplasia after the first examination.

A perennially intriguing issue is the appearance of dysplasia and carcinoma in situ during pregnancy (17). A biopsy is recommended to those pregnant women whose cytological and colposcopic results suggest invasive carcinoma. Otherwise, if the cytological findings point to dysplasia up to CIN III and the colposcopic ones up to major change, then only monitoring is done during pregnancy. Definitive treatment should be administered after childbirth and puerperium, when follow-up cytology and colposcopy and, depending on the findings, the final resolution of atypia are necessary.

In addition to emphasis on as least invasive treatment of cervical atypia in pregnancy as possible, the results of Dražančić et al. (18) contain valuable epidemiological data on the
prevalence of intraepithelial lesions in the population of pregnant women they studied, and important emphasis on the fact that those with dysplasia are already “marked” and that it is necessary to pay attention to them for definitive treatment after the puerperium. If invasive neoplastic changes in the cervix are discovered during pregnancy, the protocol is quite different, with a more radical approach.

The level of development of colposcopy and the growing problem of severe cytological atypia of the cervix in the ever-younger female population require now the establishment of a dysplasia unit where women with precancerous lesions of the cervix and lower genital tract could be diagnosed and treated in a modern way after the adoption of expert S3 guidelines (19). During the making of the expert S3 guidelines, relevant bibliography was revised and an approach was determined on the basis of evidence-based, rather than eminence-based, medicine. By using modern softwaring, it will be possible to control, treat and monitor not only the aforementioned population of girls and women who are at risk, but also their partners, so that epithelial neoplastic changes of the cervix and lower genital tract could be treated according to modern protocols.

At the current level of the profession, it is necessary to include as many younger colleagues as possible in this intriguing subspecialty keeping in mind not only the severity of the problem, but also the possibilities of modern telecommunications and consultations, prompt dealing with premalignant lesions of the cervix and lower genital tract, and thereby preserving both gynaecological and reproductive health. This way, preventive medicine in gynaecology will be able to show the real and expected results:

- to discover cytological abnormalities as soon as possible by means of comprehensive coverage of risk groups;
- to definitively treat the revealed epithelial lesions by means of a modern diagnostic and therapeutic approach;
to achieve early, effective and complete recovery bearing in mind the cost-benefit ratio.

**Personal considerations**

Based on all of the above, I would like to highlight a few of the most important points and thereby finish off this overview (19, 20).

Colposcopy has its value and reliability in the determination of the site of preclinical cervical neoplasia indicated by abnormal cytological findings (20).

Applied as an inevitable indirect diagnostic procedure between cytology and tissue analysis, it helps to improve the clinician’s evaluation and therapeutic procedures in patients with early neoplastic lesions of the cervix in accordance with the S3 guidelines (19).

It is important to identify and describe the exocervical lesion and its extent.

Growth of the lesion in its extent is related to a more severe degree of disease (Fig. 2).

(Figure 2)

*Colposcopic feature of atypical vessels in coarse acetowhitenening on the anterior lip of the uterine cervix.*
Colposcopy should serve the clinician in selecting patients for local destructive treatment and the cornerstone of diagnostics is the pathohistological diagnosis.

If local destructive and ablative procedures are needed, they are applied only in those patients where the whole squamocolumnar zone is visible (20).

A quality control program after surgery is absolutely necessary.

The application of exfoliative cytodiagnostics to a young population and the increase of prevalence of CIN in young women reveal an increasing number of women of reproductive age with abnormal cytological findings. Thus, in accordance with the S3 guidelines (19), the application of both diagnostic and therapeutic methods less invasive than diagnostic conisation is of increasing importance.

It is unacceptable to treat a patient with one of the methods of local destruction or ablation at the same time when a small biopsy has been performed because tissue destruction hinders the estimation of whether a microinvasion has been missed. The proper application of colposcopy and targeted biopsy in women with cytological dysplasia increases, in accordance with the S3 guidelines (19), diagnostic accuracy, and at the same time it shortens the monitoring period for those patients who need conisation and reduces the cost of detecting premalignant lesions and early forms of invasive cervical cancer.

As regards the occurrence of CIN during pregnancy, the goal is to see the whole squamocolumnar junction and determine the type, size and boundaries of existing lesions (20).

Biopsy of the cervix during pregnancy is indicated only in cases of suspected invasive carcinoma.

After delivery, it is essential to do cytological and colposcopic follow-up and, depending on the findings, to definitively treat atypia.

In conclusion, as I have pointed out many times before, “Non ancilla, sed adiutrix
gynaecologiae colposcopia (esto),” i.e. let colposcopy not be a maid, but a helper to
gynaecology!

EPILOGUE

From the very first day of the First Croatian Colposcopy Course on 20 June 1998 and the
beginning of the Croatian Society for Colposcopy and Cervical Pathology of the CMA on 20
January 2000 at the founding meeting and during the activities described in the preceding
pages, a lot has happened in the world that became intertwined with our origins and is
important for finishing off the insight into the development of this profession.

I mention the following:

In 1998, the First European Congress on Colposcopy and Cervical Pathology was held in
Dublin. The European Society for Colposcopy and Cervical Pathology was established.

In 1999, the Tenth World Congress on Colposcopy and Cervical Pathology was held in
Buenos Aires and so the profession returned to the country of its origin. The congress was
presided over by the agile and erudite professor Roberto Testa. At the same congress, Croatia
became a full member of the IFCPC (International Federation of Cervical Pathology and
Colposcopy) (21) (Fig. 3).
In 2001, the Second European Congress on Colposcopy and Cervical Pathology was held in Rhodes, where Croatia became a full member of the EFC (European Federation of Colposcopy) (22) (Fig.4)
In June 2002, the Eleventh World Congress on Cervical Pathology and Colposcopy was held in Barcelona. A new colposcopic classification was adopted (23).

In January 2004, the Third European Congress on Cervical Pathology and Colposcopy was held in Paris.

From 18 to 21 April 2007, an International Workshop on Human Papillomaviruses and Consensus Recommendations for Cervical Cancer Prevention & Colposcopy Training was held in Cavtat. Organizers: Rudjer Boskovic Institute, International Papillomavirus Society, European Cervical Cancer Association, Croatian Medical Association, Croatian Society for Clinical Cytology of the Croatian Medical Association, Croatian Society for Colposcopy and Cervical Pathology of the Croatian Medical Association. Among other things, recommendations for the prevention of cervical cancer were adopted (24) (Fig. 5).

(Figure 5)


In 2008, the Thirteenth World Congress on Cervical Pathology and Colposcopy was held in Auckland (New Zealand). It was decided that a new terminology should be developed, with the explanation that a growing pathology in the cervix, vagina and vulva was noticed in the general population of women.

In May 2010, the Fifth European Congress on Cervical Pathology and Colposcopy (22) was held in Berlin. The EFC website was designed and Croatia (with a concise curriculum) (22) found its place on the list of members.

In April 2011, a meeting of the 32 presidents of colposcopic societies of EFC member states was held in Berlin. The main topic was the European Colposcopy Diploma (22).

In May 2011, the Sixth Congress of the Croatian Society of Gynaecologists and Obstetricians (25) was held in Split, where the previous diagnostic and therapeutic protocol for premalignant lesions of the cervix (4) was analyzed in the light of the new developments in the profession, an analysis of the discussion was done, and S3 guidelines for premalignant lesions of the cervix were started being made (19), (Fig 6, 7).
In website: www.hdgo.hr one can find: “Cervikalne intraepitelne lezije HDGO S3 stručne smjernice”, title in English translated is: The Croatian Guidelines for Premalignant Lesions of the Uterine Cervix.

The pocket book, as well as the desk book under the title: Cervikalne intraepitelne lezije HDGO S3 stručne smjernice. Both books are the result of cooperation of following Societies of the Croatian Medical Association (CMA): Croatian Society of Gynecologists and Obstetricians, Croatian Gynecologic Oncologic Society, Croatian Society for Colposcopy and Cervical Pathology, Croatian Cytologic Society, Croatian Society for Pathology and Forensic Medicine, and Section of Gynecologists in Primary Care Service-CMA.

In July 2011, the Fourteenth World Congress on Cervical Pathology and Colposcopy was held in Rio de Janeiro and a new colposcopic classification and terminology for cervical, vaginal (26, 27) and vulvar diseases (28) was adopted. It will be possible to estimate the significance of the new classification for the cervix, vagina and vulva and the adopted expert S3 guidelines for premalignant lesions of the cervix after the initial data on the systematic and

In the hope that this overview has provided insight into the development of colposcopy in Croatia, I would especially like that young generations build their knowledge and experience in the application of this simple, yet essential method in the modern approach to the problem of diagnosis and treatment of intraepithelial lesions of the cervix, vagina and vulva in all the patients who entrust us with the care for their gynaecological and reproductive health.
Bibliography


Nacionalni program ranog otkrivanja raka vrata maternice, In: „Nacionalna strategija razvoja zdravstva u Republici Hrvatskoj 2012.- 2020.” www.zdravlje.hr


19 Algoritmi dijagnostičkih i terapijskih postupaka kod cervikalnih intraepitelnih lezija-HDGO P O S T U P N I K 2012, www.hdgo.hr

20 Grubišić G. Korelacija kolposkopskih slika s patohistološkim nalazima vrata maternice zaraženim HPV, Disertacija, Zagreb, 1997, 182-184
International Federation for Cervical Pathology and Colposcopy, Official Site: www.ifcpc.org

European Federation for Colposcopy, Official Site: www.e-f-c.org


Šesti Hrvatski Kongres Ginekologa i Opstetričara "Highlights" In: HDGO portal Hrvatskog društva za ginekologiju i opstetriciju, www.hdgo.hr
