Incomplete conization

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Conization as a surgical technique is perhaps one of the interventions in Gynecology which has remained almost unchanged, not only technical, but its application and foundations over time. Excision of a conical part of the cervix which includes the exocervix as base of the cone, and a segment of endocervical canal as axis and vertex, allows a detailed histopathological evaluation of the entire transformation zone and canal. Performed today with diathermic loop, in the majority of cases, it is the way of approach more efficient and effective in the diagnosis and treatment of preinvasive disease of cervix (CIN 2/3) and occasionally its microinvasive disease.

However, the objectives of the treatment of the disease, sometimes not are accomplished by a variety of factors. In our service we have coined the term of insufficient Conization as that procedure that fails to provide sufficient information for the diagnosis, that fails to dry out with sufficient margin of disease or when the presence of microinvasive or invasive disease in the anatomopathologic report, makes necessary to perform another procedure that complements treatment.

Traditionally it has been considered that the main objective of a cone is the diagnosis, i.e. achieving the lesion type information present in the cervix. However the cone has shown also its usefulness and safety in the treatment of intraepithelial neoplasia (CIN 2 and CIN 3) and in some cases, microinvasive disease.

Factors affecting the persistence or recurrence of preinvasive disease:

We grouped these factors into those inherent to the conditions of the patient, extension of the lesion and those related to surgical treatment.

It has been noted that the postconizacion recurrence in patients who smoke is greater than in the rest of the patients. In the series of Sarian and cols. the patients who smoke and those older than 35 years, showed a higher rate of persistent infection with the Human Papilloma Virus (HPV). ¹
Likewise, patients with multiple couples and patients infected with the Human Immunodeficiency Virus (HIV +) have higher rates of recurrence after surgical treatment in the same way. In patients with HIV +, the recurrence rate is inversely proportional to the response to the anti-retroviral treatment.  
Likewise, the presence of HPV of high-risk has been considered as one of the most reliable predictive factors of recurrence and tougher injuries. A series made in Venezuela showed that infection with HPV 16 or 18 are related injuries more severe and persistent. Additionally the HPV viral load in the piece is a reliable forecast factor. In the series of Alonso I and cols, shown in 203 patients with IAS 2 and NIC 3 with loop excision, that the presence of a high viral load (greater than 1000 RLU) before the procedure and positive margins, were associated with a higher recurrence rate that in patients with low viral load and free margins (31.8% vs. 9.4%, P = 0.005; and 36.4% vs. 11.9%, P < 0.001 respectively). Another of the interesting findings of this series is that the combination of the first cytology control with the determination of high-risk HPV resulted in an effective measure to detect patients with residual disease in the early follow-up. This combination showed a sensitivity of 100%, a negative predictive value of 100% and a specificity of 76.6%.

When we evaluate the margin and endocervical status after a loop excision, persistence/recurrence can predict properly depending on the state of the same. In a series of 449 patients treated with diagnosis of NIC 3, communicated a persistence/recurrence rate greater in patients with a positive endocervical curettage when compared with those which were identified disease in endocervical curettage (65% vs 7.6% odds ratio 7.940, 95% CI 3.428-18,390, P < 0.001). The presence of disease in the margin of the vertex of the operative part related, like disease in multiple quadrants of the cervix, with a persistence/recurrence rate significantly greater (odds ratios 2,972, 95% CI 1.401-6.281, P = 0.004 and 2.180,95% CI 1.014-4.689, P = 0,046 respectively). The positive predictive value of age (> 50 years), positive endocervical margin and extensive disease of the ectocervix (more than one quadrant) was 31.7%, 65.5%, 40.0% and 21.9%, respectively.

In the evaluation of the margins at the vertex, the presence of disease is considered the risk factor most important to predict persistence/recurrence. In the series of Tillmanns TD et al. in 248 women who submitted a loop excision, 50% of patients with positive margins (CIN 1-3) in the first part (33/66) showed disease in the subsequent part product of a new pitch of the loop, called by authors as "top hat". While at 6.6% (12/182) of patients with margins free in the first part there were only disease in the "top hat" (P < 0.0001). On this aspect, a meta-analysis reconfirms that the presence of residual preinvasive disease, especially in the vertex margin, exposes the patient to a risk of relapse and recommended to always complete the treatment.

The evaluation of disease in the endocervix by a endocervical colposcopy is considered an important step before the conization is planned. In patients with extensive endocervical disease, whose cephalic margin is more than 15 mm from the external cervical OS, it is necessary to consider the implementation of a cold knife conization either with the needle electrode. The use of a loop, which frequently have a radius of 10 mm or less, there is a risk leaving residual disease in the endocervix remnants. The use of devices...
such as True Cone®, which are available with larger diameters or the use of the technique of "top hat", could be an alternative.

In order to achieve the expected results in the realization of a cone, we will group the necessary technical recommendations for this purpose in several stages.

**Operatory phase:**

The proper exposure of the cervix and the delimitation of the lesion in the component exocervical and inferior endocervix are the elements of utmost importance in the planning of the intervention. The realization of a colposcopy and resection previously demarcated by the application of lugol's solution, before the infiltration of local anesthetic, constitute an effective way of achieving appropriate margins, regardless of that be done with a scalpel or with loop. Likewise, lesions that have an extension greater than 10 mm, endocervical channel, as explained above, must indicate a scalpel or needle electrode removal to include all endocervical lesion, thus preventing the cephalic margin of the specimen (vertex) is affected. Total resection of the transformation zone must be in one piece whenever possible by its diameter. Set the type of transformation zone will be vital in the design of the piece. A transformation type zone I (fully exocervical) or type II (with a component endocervical) facilitates the resection in one piece. While the transformation type zone III (fully endocervical) requires an excision with larger loops that allow a cone of "top hat" or type "pagoda". In case of needing a split in more than one piece, it is recommended to perform a resection of the central ring or "donuts", including most of the transformation zone, and will be completed with an additional extension where required. The fragmentation of the transformation zone, where is expected to find most of the histopathological changes, should be avoided. Resection of an extra margin of channel, if indicated, should be with a semicircular or square electrode 5 mm wide. In this last piece the power level of the generator, should be corrected in order to avoid excessive thermal damage of a piece usually less volume.

The correct handling of the operative piece begins with the proper orientation of the same. For this purpose, we recommend the opening of the cone in a radial given (usually radial 12 hours) and specified in the ballot request for biopsy. We prefer this form of reference rather than the placement of needles of different colors with which there is a risk that part will mobilize and miss out on the orientation of the same. Equally exocervical margins should be stained with ink and the apex of canal, and wait about 5 minutes to the ink is well include in the piece, before immersing it in formaldehyde. After the opening of the piece and the staining of margins of resection, will it be fixed through needles, to a paraffin block, to prevent the retraction of the piece.

**Postoperatory phase:**

Once the pathology report is obtained, the following aspects will be evaluated in order to determine the adequacy or not of the procedure.
**Type of lesion**: establish the degree of cervical intraepithelial neoplasia in the piece and/or the presence of adenocarcinoma in situ, foci of microinvasion or franc stromal invasion.

**Extension of the lesion**: the presence of CIN in a quadrant or less is considered as a focal lesion, while the presence of lesions that affect more than one quadrant are considered to be extensive.

**State of the margins**: the proper orientation and staining of margins of the piece allows the adequate pathological evaluation and the establishment of the state of the resection margins in order to locate the area of residual disease. While staining of the cephalic canal or vertex allows the evaluation of the status of the remaining canal.

Once processed information provided by biopsy may be different scenarios of insufficient conization, each of which requires specific treatment.

- **Insufficient margins in the exocervix with CIN**: in these cases the identification of the area where it is not attained sufficient resection is vital. Once identified, 3 to 6 weeks later, a colposcopy or proof of lugol will be done, recommending to perform a re-excision only directed to the sector of the potentially compromised cervix and that present abnormal colposcopic findings.

- **Vertex with insufficient margin**: in these cases the persistence of preinvasive disease on remnant canal leads to a risk of persistence of the lesion or to relapse, including invasive, at this location. On the other hand, it is necessary to highlight the frequent difficulty that presents the evaluation of the postconization cervix, especially the endocervical remnants, is a limiting factor for the follow-up of these cases. For this reason recommendation will depend on multiple factors such as the wishes of descendants of the patient and the technical possibility of a new resection. In patients with offspring complete and CIN 2/3 in the margin of the vertex, the recommendation is to perform a simple hysterectomy. However patients with desires of offspring can be indicated a new conization, preferably conventionally or with a needle electrode, which is a viable alternative and could be programmed once the cervix is completely healed in order to accurately direct the resection of the affected channel. 9

- **Microinvasive disease**: the diagnosis of squamous cell carcinoma microinvasive (IA1, in the part of cone, with free margins) could be considered sufficient treatment in young patient with wishes of offspring. However, in patients with margins involved, either with full offspring, the realization of a conventional hysterectomy is the alternative most indicated. Recommending a reconization in patients without descent with positive margins must be carried out with needle or cold knife. In patients with microinvasive carcinoma of the cervix (less than or equal 3mm stromal Invasion, horizontal extension less than 7 mm,
and lymphatic vascular space invasion) treatment to continue is still controversial, especially in patients without complete offspring. The realization of a radical hysterectomy is the alternative of choice for many working groups. However, the use of radical trachelectomy emerges as an alternative to hysterectomy. The controversy arises regarding the use of conization with free margins of the lesion as a measure only in these cases, measure that does not have sufficient studies and long term, to validate the security of this option.8

- **In situ adenocarcinoma (IAS):** As in the previous case the conization with free margins and with a length of 2.5 cms of the endocervix, can be considered sufficient treatment, especially in young patients without descent complete. However, multifocality observed at the AIS, the possibility of undetected residual disease is relatively common. A conventional hysterectomy is recommended in patients with complete descent 9.

- **Invasive carcinoma:** the recommendation is to treat these cases through a hysterectomy expanded type III with pelvic lymphadenectomy, in cases classified as stage IB1. Radiotherapy is indicated in patients who are not candidates for surgery.

- **Not evaluable piece:** with some frequency histopathologic evaluation cannot be evaluated properly because of lack of guidance or staining of the piece or in cases of resections with loop with accentuate thermal damage. In these cases, the observation will be reserved in patients committed with its follow-up, with wishes of offspring and pre-invasive disease colposcopically presented as a focal lesion. In case of extensive lesions or suspected residual lesion, microinvasion or invasion, a cold knife reconization or hysterectomy looks like the safer alternative.

In order to expand this topic it is advisable to review the excellent meta-analysis9 published in The Lancet Oncology 2007, which included in its interpretation 66 studies involving more than 35,000 patients, the most recent and comprehensive study in its genre published to date. This study reported a rate of positive margins of 24%, with a proportion of 9% residual disease. The prevalence of residual disease when margins exocervical, endocervical, or both were positive was 16%, 21% and 23%, respectively. However the authors considered that these data showed some heterogeneity, since methods for residual disease varied between a PAP control and a biopsy post-treatment. The prevalence of residual disease in patients with free margins and positive/indeterminate margin was 3% and 18%, respectively. One of the most interesting findings from this study was that resections in multiple parts, was one of the factors that most affected the reliable interpretation of the status of the margins. One of the conclusions of this study is that the presence of positive margins exposes the patient to a higher risk of eventual recurrence and residual disease. As for the most emphatic recommendations of the authors is, insofar as possible, to do a resection in one piece. This will allow, not only the removal of the entire lesion, with free margins and their adequate histopathologic evaluation, but avoid a common fact in the treatment of the cervix pre-invasive disease, the overtreatment.
References:


