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RESEARCH ARTICLE

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Brazilian Society of Surgical Oncology consensus on fertility-sparing surgery for cervical cancer

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Abstract

Objective: Several controversies remain on conservative management of cervical cancer. Our aim was to develop a consensus recommendation on important and novel topics of fertility-sparing treatment of cervical cancer.

Methods: The consensus was sponsored by the Brazilian Society of Surgical Oncology (BSSO) from March 2020 to September 2020 and included a multidisciplinary team of 55 specialists. A total of 21 questions were addressed and they were assigned to specialists' groups that reviewed the literature and drafted preliminary recommendations. Further, the coordinators evaluated the recommendations that were classified by the level of evidence, and finally, they were voted by all participants.

Results: The questions included controversial topics on tumor assessment, surgical treatment, and surveillance in conservative management of cervical cancer. The two topics with lower agreement rates were the role of minimally invasive approach in radical trachelectomy and parametrial preservation. Additionally, only three recommendations had <90% of agreement (fertility preservation in Stage Ib2, antistenosis device, and uterine transposition).

Conclusions: As very few clinical trials have been developed in surgery for cervical cancer, most recommendations were supported by low levels of evidence. We addressed important and novel topics in conservative management of cervical cancer and our study may contribute to literature.

KEYWORDS

cervical cancer, conservative management, fertility-sparing surgery, radical trachelectomy, simple trachelectomy

1 | INTRODUCTION

Cervical cancer is the fourth most common cancer in women worldwide, the fourth leading cause of death,[1] and 85% of cases occur in low- and middle-income countries. In Brazil, it is the third most frequent cancer in women and the most prevalent cancer in underserved regions.[2]

Recent data from Surveillance, Epidemiology, and End Results (SEER) statistics showed that 36.5% of cervical cancers were diagnosed in women less than 45 years old.[3] Moreover, in the last decades, we have been facing a trend on delaying childbearing and conservative surgery has gained progressive importance for women with early stage cervical cancer. Radical trachelectomy has been established as the standard procedure for fertility-sparing surgery due to its oncologic safety and reproducibility.[4,5] Notably, the indication of trachelectomy increased in the United States from 4.6% in 2004% to 17% in 2014 for women aged <30 years.[6]

However, as several controversies remain on conservative management of cervical cancer, the Brazilian Society of Surgical Oncology (BSSO) developed a consensus recommendation on some important and sometimes neglected topics.

2 | METHODS

The BSSO consensus on fertility preservation was developed from March 2020 to September 2020, by a multidisciplinary team of 55 specialists. Two consensus chairs were appointed (G. Baiocchi, R. Ribeiro). Initially, five-team coordinators were chosen (A.T.T., P.H.Z., T.P.B., M.A.V., G.G.) and all discussed what controversial topics should be included in the consensus. A total of 21 questions were considered and each coordinator led 2 groups of participants. Moreover, each group (four to five participants) was assigned to review the relevant literature and write a preliminary recommendation for two questions.

The coordinators revised and standardized the text aligned to the objectives of the study. Videoconference meetings could be used by each working group for discussions and suggestions. The level of evidence and degree of recommendation were defined by an adapted version of the Infectious Diseases Society of America-United States Public Health Service Grading System[7] (Table 1). Finally, online voting via SurveyMonkey determined the level of agreement to each recommendation among all members of the expert panel. Panel members did not vote in cases they had conflicts of interest or if had insufficient knowledge about the recommendation. All recommendations were reviewed and approved by the group and the voting result supported the level of agreement among the expert panel.

The recommendations presented in this study are a statement of evidence and consensus opinion of the authors and based on current evidence of conservative management of cervical cancer. All medical assistant that consults these recommendations should have their personal judgment and own responsibilities of the patient's best care. Moreover, the authors disclaim any responsibility for their application.

Levels of evidence	
I	Evidence from at least one large randomized controlled trial with good methodological quality (low potential bias) or meta-analyses of well-conducted randomized trials without sample heterogeneity
II	Small, randomized trials or large randomized trials with suspected bias (poor methodological quality), meta-analyses of these trials, or trials with demonstrated sample heterogeneity
III	Prospective cohort studies
IV	Retrospective cohort or case-control studies
V	Studies without control groups, case reports, and expert advice
Grade of recommendation	
A	Strong evidence of efficacy with significant clinical benefit; strongly recommended
B	Strong or moderate evidence of efficacy but limited clinical benefit; usually recommended
C	Insufficient evidence of efficacy or benefit does not outweigh risk or disadvantages (i.e., adverse events, costs, and other factors); recommended in some cases
D	Moderate evidence of ineffectiveness or occurrence of adverse outcomes; rarely recommended
E	Strong evidence of ineffectiveness or occurrence of adverse outcomes; never recommended

TABLE 1 Levels of evidence and grades of recommendation.

3 | RESULTS

The following questions were developed and based on recent and still controversial topics in conservative management of cervical cancer:

1. What would be the minimum free margin distance after conization in Stage Ia1, with the absence of lymphovascular space invasion (LVSI) that indicates no additional treatment?

   Patients with Stage Ia1 without LVSI can be safely treated with conization[8] and endocervical curettage may allow multicentric lesions diagnosis. Ideally, the microscopic surgical free margins should be achieved including both pre-malignant and invasive lesions.[9] Despite current literature does not establish a minimum free margin distance after conization, a distant of at least 3 mm has been suggested.[10–12]

   Recommendation: For conservative treatment of Stage Ia1 without LVSI, a free margin of pre-malignant and invasive lesions should be achieved.

   Level of evidence: III

   Grade of recommendation: A

   Voting result: 100% (52) agree, 0% (0) disagree, 0% (0) abstention (52 voters)
2. How the preoperative assessment should be done in candidates for radical trachelectomy?

   Before radical trachelectomy, the following steps are suggested:

   a. Desire to preserve fertility and no previous history of infertility.[5]
   b. Pelvic and gynecologic exam for tumor size evaluation and confirm disease clinically restricted to the cervix.
   c. Biopsy for histopathological confirmation or conization if the biopsy cannot establish the definitive diagnosis of invasive lesion and exclude microinvasive lesion.
   d. Magnetic resonance imaging (MRI) is mandatory for tumor size evaluation, stromal invasion, parametrial extension, presence of suspicious lymph nodes, and distance from internal ostium.[13,14]
   e. For Stage Ib1, an upper abdomen MRI or computed tomography is advised, as well as pulmonary imaging (CT is preferable) or PET-CT.[15]
   f. A specific surgical consent term should be signed and includes the awareness of trans-operative findings that contra-indicate the fertility-sparing procedure, as well as the obstetrical and oncological issues.

   Recommendation: The preoperative assessment should include physical exam, biopsy, or conization, and imaging includes pelvic MRI.

   Level of evidence: III

   Grade of recommendation: A

   Voting result: 96.2% (50) agree, 3.8% (2) disagree, 0% (0) abstention (52 voters)
3. Is there a minimal distance from the cranial tumor limit to the internal uterine ostium showed by MRI that would contra-indicate the radical trachelectomy?

   The exclusion of internal ostium involvement is critical for fertility-sparing surgery. A meta-analysis evaluated the value of MRI for internal os tumor extension and found sensitivity and specificity of 86% and 97%, respectively.[16] In case of tumor-free distance of ≤5 mm, the sensitivity, specificity, positive predictive value, and negative predictive value were 73%, 98.3%, 95% e

88.1%, respectively.[17] Moreover, Lakhman et al. reported that radical trachelectomy was feasible when the tumor distance from internal os was ≤5 mm, 6-9 mm, and ≥10 mm in 0%, 40%, and 94% of cases, respectively.[18]

Recommendation: MRI has a good performance for evaluation and prediction of internal ostium involvement. The cutoff of ≤5 mm may be used to select patients at high risk of internal o tumor involvement.

Level of evidence: III

Grade of recommendation: B

Voting result: 84.6% (44) agree, 5.8% (3) disagree, 9.6% (5) abstention (52 voters)

4. Is there any epithelial histology that contra-indicate fertility preservation?

Squamous cell carcinoma, adenocarcinoma, and adenosquamous are the histologies that have been described for radical trachelectomy.[19] There is no definitive evidence that contra-indicate fertility-sparing surgery regarding histological grade and rare histologies such as clear cell carcinoma and adenocarcinomas not HPV related.[20] However, fertility-sparing surgery is not indicated for neuroendocrine carcinomas, due to prognosis, the possibility of extrauterine disease even for apparently early stage disease, and indication of adjuvant radiotherapy and chemotherapy.[21,22]

Recommendation: Fertility-sparing surgery is contraindicated for neuroendocrine carcinoma and there is no definitive evidence against fertility preservation attempt for unusual adenocarcinomas and not HPV related.

Level of evidence: III

Grade of recommendation: B

Voting result: 88.4% (46) agree, 9.6% (5) disagree, 1% (2) abstention (52 voters)

5. Can conization or simple trachelectomy replace radical trachelectomy for Stages Ia2 and Ib1?

Several studies have demonstrated that radical trachelectomy is a feasible and safe procedure for patients that desire to preserve fertility.[4,5] Like radical hysterectomy, radical trachelectomy is associated to a higher morbidity profile due to parametrial resection. Consequently, simple trachelectomy and conization had emerged as alternatives to reduce morbidity and obstetrical bad outcomes. Recently, Li et al.[23] described their series and reviewed 12 published papers that evaluated conization for early stage tumors. For the 406 cases without lymph node involvement, only 20 (4.9%) recurred and the main recurrence site was the cervix (77.3%), which may be explained by inadequate margins and persistent HPV infection. There are 3 clinical trials (GOG 278, SHAPE trial, LESSER trial) ongoing that address less radical surgeries (without parametrial resection) and recently ConCerv study[24] has been published and reported a 3.5% overall recurrence rate after conservative surgery (simple hysterectomy or conization) and 2.4% recurrence after conization.

Recommendation: Radical trachelectomy is still indicated as the fertility-sparing surgical procedure in Stages Ia2 and Ib1.

Level of evidence: III

Grade of recommendation: B

Voting result: 78.9% (41) agree, 19.1% (10) disagree, 2% (1) abstention (52 voters)

6. What should be the surgical approach for radical trachelectomy?

Radical trachelectomy was first described by Prof. Dargent as vaginal approach with pelvic laparoscopic lymphadenectomy.[25] Further studies suggested other approaches such as open and totally minimally invasive surgery (MIS) (robotic-assisted and laparoscopy).[4,5,26] In 2018, the Phase III LACC trial reported a higher risk of recurrence and death of nearly four times for women that received radical hysterectomy by MIS.[27] Moreover, a meta-analysis suggested the negative impact in recurrence for Stage Ib1 (HR 1.68, CI 95% 1.20–2.36) against MIS.[28] Regarding radical trachelectomy, the recently published IRTA study included 646 cases (358 open, 288 MIS) and did not find difference in the risk of recurrence at 4.5 years.[29]

Recommendation: The preferential surgical access for radical trachelectomy should be by vaginal or open approaches.

Level of evidence: I

Grade of recommendation: B

Voting result: 61.5% (32) agree, 34.5% (18) disagree, 4% (2) abstention (52 voters)

7. Can the sentinel lymph node (SLN) biopsy substitute systematic pelvic lymphadenectomy in Stages Ia2 and Ib1?

In the last decade, SLN biopsy emerged as an alternative to systematic lymph node dissection in cervical cancer staging, yielding high sensitivity and negative predictive value rates. Moreover, SLN biopsy significantly increases the lymph node positivity after ultrastaging and detection of unusual lymph node locations.[30,31] Yet, the method decreases the morbidity related to full lymph node dissection such as vascular and nerve injuries, lymphocele, and lymphedema.[32] However, the only phase III confirmatory trial (SENTICOL III)[33] is still ongoing and results are expected from another prospective study (SENTIX).[34]

Recommendation: The SLN biopsy may substitute systematic pelvic lymphadenectomy in Stages Ia1 with LVSI and Ib1 in candidates to fertility-sparing surgery when performed by an experienced surgical team on this technique.

Level of evidence: III

Grade of recommendation: B

Voting result: 92.3% (48) agree, 7.7% (4) disagree, 0% (0) abstention (52 voters)

8. Should the SLNs undergo trans-operative frozen section in fertility-sparing surgeries?

The lymph node status is critical for the completion of any fertility-sparing procedure. The presence of a metastatic lymph node is a main negative prognostic factor and alters the trans-operative decision. As the standard treatment for positive node is chemoradiation, a positive SLN might contraindicate and discontinue the fertility-sparing surgery.[35–37]

Notably, a low sensitivity rate (63%) of SLN after frozen

section has been described and may be explained by the analysis of only one slide section or imprint.[38,39] However, a sensitivity for macrometastasis and micrometastasis of 100% and 88.9%, respectively, can be achieved by an experienced pathologist after serial lymph node sectioning (every 2–5 mm).[40,41]

Recommendation: SLNs and any suspicious lymph node should be sent to frozen section during fertility-sparing surgery.

Level of evidence: III

Grade of recommendation: A

Voting result: 90.2% (46) agree, 9.8% (5) disagree, 0% (0) abstention (52 voters)

9. What should be the minimal cranial tumor margin distance in radical trachelectomy?

Retrospective studies suggest different cranial margins during radical trachelectomy. Li et al.[42] suggested that a 10-mm margin distance is sufficient for low local recurrence rates, including tumors larger than 2 cm. The resection limit should be between 5 and 10 mm below the internal uterine ostium,[19] for better cervical competence, and decrease the risk of premature delivery and ascendent infection.[43] Other studies based on intraoperative frozen section, suggest a minimum microscopic margin of 5 mm[44–47]

Recommendation: A macroscopic cranial margin distance of ≥10 mm and microscopic of ≥5 mm is recommended for radical trachelectomy. A minimum of 5–10 mm of cervix preservation below the internal ostium is also recommended.

Level of evidence: III

Grade of recommendation: B

Voting result: 90.4% (47) agree, 3.8% (2) disagree, 5.8% (3) abstention (52 voters)

10. Is it possible to preserve fertility in Stage Ib2? What is the best approach?

Despite the higher risk of recurrence and a lower rate of fertility-sparing completion compared to formal indication (Stage ≤ Ib1), fertility-sparing surgery for Stage Ib2 has been suggested to be feasible.[48–52] The upfront surgery may include abdominal radical trachelectomy[48,53] and the MIS approach should be avoided.[27,49] Notably, the fertility-sparing procedure is expected to succeed (completion with no further adjuvant treatment) in only one-third of cases after upfront radical trachelectomy.[51]

However, recent studies have suggested neoadjuvant chemotherapy as a promising approach for Stage Ib2, with increased fertility-sparing success, better obstetrical outcomes, and with similar recurrence rates.[49,50] A clinical trial (CONTESSA) is already ongoing and will address neoadjuvant chemotherapy in Stage Ib2.

Recommendation: It is possible to attempt fertility preservation in Stage Ib2 for women with a great desire to preserve fertility. Neoadjuvant chemotherapy seems to have better outcomes compared to upfront radical trachelectomy, however, with no prospective study supporting any approach.

Level of evidence: IV

Grade of recommendation: C

Voting result: 76.9% (40) agree, 17.3% (9) disagree, 5.8% (3) abstention (52 voters)

11. Is it possible to preserve fertility in Stage Ib3? What is the best approach?

The literature on this topic is scarce and limited to case reports or include tumors >4 cm together with other tumor sizes and mostly includes neoadjuvant chemotherapy.[54–56] Although less radical surgeries have been reported (e.g. conization or simple trachelectomy), radical trachelectomy seems to be the best approach [55,56] and a better prognosis is related to clinical and pathological complete response.[20,57]

Recommendation: Despite some case reports, fertility-sparing surgery for Stage Ib3 should not be recommended.

Level of evidence: V

Grade of recommendation: A

Voting result: 98% (50) agree, 2% (1) disagree, 0% (0) abstention (51 voters)

12. Should the uterine arteries be preserved in radical trachelectomy?

In a systematic review by Bentivegna et al.[20] ($n = 2777$), the pregnancy rates were 45% and 44% for women that had uterine arteries spared or ligated, respectively. Regarding the uterine corpus perfusion, Tang et al.[58] suggested by angio-tomography that 87.5% ($n = 16$) of cases submitted to uterine preservation had a subsequent vessel obstruction. Moreover, Escobar et al.[59] evaluated the uterine perfusion with intravenous indocyanine green and did not find difference of uterine perfusion between the group that had uterine ligation ($n = 10$) compared to uterine preservation ($n = 10$). Moreover, the uterine arteries approach does not impact the risk of recurrence.[60]

Recommendation: The uterine arteries may be ligated during radical trachelectomy.

Level of evidence: III

Grade of recommendation: B

Voting result: 90.4% (47) agree, 9.6% (5) disagree, 0% (0) abstention (52 voters)

13. Is the uterine cerclage always necessary after radical trachelectomy? What is the best moment to perform?

Uterine cerclage has an important role in cervical competence cervical, and consequently prevents late miscarriage and premature birth in women submitted to fertility-sparing surgery.[61–63] The prevalence of second trimester after radical trachelectomy is 2 times higher than the general population (8-10% vs. 4%),[64] and the cerclage during trachelectomy reduces the late abortion rates from 50% to 22%.[65] Regarding the cerclage timing, most authors recommend at the time of radical trachelectomy.[63,66–69] Monofilament nonabsorbable suture is preferable due to its lower tissue interaction, less bacterial proliferation, and better obstetrical profile.[67,70]

Recommendation: Uterine cerclage is a necessary step for cervical incompetence prevention and should be done at the time of radical trachelectomy.

Level of evidence: III

Grade of recommendation: A

Voting result: 92.2% (47) agree, 5.8% (3) disagree, 2% (1) abstention (51 voters)

14. Are anti-stenosis devices necessary to prevent cervical stenosis?

In a systematic literature review that included 1,547 patients, Li et al. reported cervical stenosis with or without anti-stenosis tools in 4.6% versus 12.7% of cases, respectively.[67] In a series published by Nick et al.,[71] any case had stenosis after robotic radical trachelectomy where a Smit Sleeve (Nucletron) device was implanted compared to 14% for Foley catheter. Moreover, Vieira et al. reported a lower stenosis rate for Smit Sleeve compared to Foley or any device use, yielding stenosis of 4.3%, 10.3%, and 8.3%, respectively.[72] Important to highlight that the cervical stenosis usually occurs lately, and the Foley device was maintained for 3 days to 8 weeks in contrast to 2-3 months for the other devices.[71,72]

Recommendation: Anti-stenosis devices are recommended for cervical stenosis prevention after radical trachelectomy.

Level of evidence: IV

Grade of recommendation: C

Voting result: 82.4% (42) agree, 9.8% (5) disagree, 7.8% (4) abstention (51 voters)

15. What is the best treatment approach for the cervical stenosis?

There is no consensus of cervical stenosis definition after radical trachelectomy. Cervical stenosis can be considered from difficulty of cervical brush insertion to hematometra or amenorrhea. Li et al.[73] evaluated the menses pattern of 129 women submitted to radical trachelectomy and noted regular menses, change in menses pattern, and amenorrhea in 30.2%, 57.4%, and 12.4%, respectively. All menses alterations were related to cervical stenosis.

Cervical dilatation is the standard treatment and may be associated with anti-stenosis device implantation. The cervical ostium may be easily found during menses and the dilatation better performed under anesthesia and imaging guided (ultrasound). As a re-stenosis is common, in asymptomatic patients the dilation should be postponed until pregnancy is desired or before reproduction assisted procedures.[74,75]

Recommendation: The cervical stenosis should be treated with dilatation when symptoms or before pregnancy attempting.

Level of evidence: IV

Grade of recommendation: B

Voting result: 90.4% (47) agree, 5.8% (3) disagree, 3.8% (2) abstention (52 voters)

16. What is the recommendation when the final pathological report indicates adjuvant treatment due to intermediate risk factors for recurrence ("Sedlis criteria")?

When an association of the intermediate risk factors is present, the 3-years risk of recurrence increases from 2% to 31%.[76] A Phase III trial showed that if intermediate risk factors were present ("Sedlis criteria"), adjuvant pelvic radiation reduced the risk of recurrence in 47% (15% vs. 28%).[76,77] Subsequent meta-analysis confirmed the benefit of radiotherapy in this scenario, with a 40% less risk of disease progression in 5 years, however with no impact in overall survival.[78] Regarding adjuvant chemotherapy, Lee et al.[79] evaluated 591 patients who submitted isolated adjuvant chemotherapy after high risk or intermediate risk factors, and the recurrence rate for the intermediate-risk cases was 11.8%.

Recommendation: The standard treatment after intermediate risk factors ("Sedlis criteria") is adjuvant pelvic radiotherapy.

Level of evidence: I

Grade of recommendation: A

Voting result: 92.3% (48) agree, 2% (1) disagree, 5.7% (3) abstention (52 voters)

17. What is the recommendation when the final pathological report indicates adjuvant treatment due to high-risk factors for recurrence (positive lymph node, positive margin, or parametrial invasion)?

If a high-risk factor is present, the standard treatment is adjuvant chemoradiation. A large phase III clinical trial showed a benefit of addition concomitant chemotherapy to radiotherapy when compared to only radiotherapy for disease free survival (HR 2.01; $p = 0.003$) and overall survival (HR 1.96; $p = 0.007$). There is no sufficient evidence for only adjuvant chemotherapy in this scenario.[36]

Recommendation: In case of positive lymph node, positive margin, or parametrial invasion, there is an indication of adjuvant chemoradiation.

Level of evidence: I

Grade of recommendation: A

Voting result: 98% (50) agree, 2% (1) disagree, 0% (0) abstention (51 voters)

18. Should uterine transposition be considered an option for women submitted to radical trachelectomy that have an indication of adjuvant pelvic radiotherapy?

Uterine transposition was first described by Ribeiro et al. for a woman with rectal cancer that received pelvic radiation and still desired to preserve fertility.[80,81] A case series was recently published and included five gynecologic cancer cases— four cervical and one vaginal cancer.[82] It seems to be a feasible and reproductible surgical technique to preserve fertility in selected cases; however, the oncologic safety and obstetric outcomes are still pending.

Recommendation: Uterine transposition is a viable alternative for fertility preservation after radical trachelectomy before adjuvant pelvic radiotherapy.

Level of evidence: V

Grade of recommendation: C

Voting result: 76.5% (39) agree, 9.8% (5) disagree, 13.7% (7) abstention (51 voters)

19. How should be the surveillance after fertility preservation?

The colpocytology and pelvic exam are usually performed every 3-4 months during the first 3 years, every 6 months in the following 2 years, and annually after 5 years of follow-up. However, the value of colpocytology is still controversial. In a study that included 41 cases submitted to radical trachelectomy, an abnormal cytology was found in 59% of cases, however with no clinical significance.[83]

In 2017, Salani et al.[84] suggested that clinical evaluation and symptoms awareness are the best methods for surveillance, where up to 75% of recurrences could be diagnosed. For symptomatic cases, imaging such as MRI, CT, and PET-CT should be considered for local and distant metastasis evaluation.[84,85] Additionally, the recurrence rates correlate to tumor staging. In a meta-analysis by Zhang et al.[86], for Stage Ia that received conization (n = 191) and radical trachelectomy (n = 188), the recurrence rates were 0.4% and 0.7%, respectively. For Stage Ib1 (n = 898) after radical trachelectomy, the recurrence rate was 2.3%.[86]

Notably, a meta-analysis suggested that HPV vaccination reduces the risk of recurrence in 64% for women treated for CIN2+.[87] After conservative management of cervical cancer, the vaccination is still controversial. However, vaccination could potentially reduce the risk of a new HPV infection and cancer recurrence.[88]

Recommendation: Physical exam every 4 months during first 2–3 years, and every 6 months until 5 years of follow-up. Imaging should be individualized, and patients should be counseled about HPV vaccination.

Level of evidence: IV

Grade of recommendation: B

Voting result: 94.2% (49) agree, 5.8% (3) disagree, 0% (0) abstention (52 voters)

20. How Cervical Intra-epithelial neoplasia (CIN) and invasive recurrences (≤2 cm) should be treated?

For CIN1, a conservative approach should be advised due to high rate of spontaneous regression.[89] However, the CIN2+ lesions should be treated. For women that previously underwent conization, new conization is usually feasible.[90] If a trachelectomy was performed, ablative methods become an option.[91] In case of a recurrence as invasive lesion after conization, a radical trachelectomy could still be performed if the formal indication criteria is fulfilled.

Recommendation: CIN1 recurrences after conization or trachelectomy should be followed. CIN2+ should be treated with conization if feasible or ablative procedures if fertility is still desired. In case of invasive recurrence after conization, a radical trachelectomy may still be recommended if the formal criteria are followed. For women that had a previous radical trachelectomy, larger tumors (>2 cm), or signal of extra-uterine spread, conservative management is not possible and the patient should be treated with hysterectomy or radiotherapy.

Level of evidence: V

Grade of recommendation: B

Voting result: 92.3% (48) agree, 5.7% (3) disagree, 2% (1) abstention (52 voters)

21. How to manage pregnancy after radical trachelectomy?

Preterm labor is an important complication after radical trachelectomy and occurs in 25%–39% of cases.[64,92] The remnant cervix size correlates to the risk of preterm delivery, as size <13 mm measured between 21 and 23 pregnancy weeks predicts preterm delivery before 34 weeks.[61] Moreover, the size <10 mm measured by MRI during radical trachelectomy surveillance is also related to preterm delivery.[93] The cerclage is critical and should be done after the first trimester if not performed at the time of cancer surgery.

Intravaginal progesterone can also prevent preterm labor as it reduces the local inflammatory process and uterine contraction.[94] Moreover, women should be screened and treated for vaginosis as it is a common cause of premature membranes rupture and preterm birth.[95]

Recommendation: The obstetrical surveillance should include the evaluation of remnant cervix size, cerclage confirmation, and screening for vaginosis. Intravaginal progesterone is also recommended.

Level of evidence: IV

Grade of recommendation: B

Voting result: 84.6% (44) agree, 0% (0) disagree, 15.4% (8) abstention (52 voters)

4 | DISCUSSION

Although fertility-sparing surgery has emerged as a safe, feasible, and reproductible method for young women with early stage cervical cancer that desire to preserve fertility, several controversies remain. Unfortunately, most recommendations of our study are supported by low levels of evidence due to the lack of clinical trials developed in cervical cancer surgery. However, we could successfully discuss some important and novel topics and address recommendations supported by the best available evidence.

Notably, when only the responders were analyzed, the two topics with lower agreement rates were the value of MIS in radical trachelectomy and parametrial preservation. We believe that it reflects the persistent debate between experts on LACC trial[27] results and the best surgical approach for stages ≤Ib1, and also due to the recently published IRTA study.[29] Regarding the parametrial preservation topic, ConCerv study[24] was also recently published and we awaiting the final results of the other clinical trials. Additionally, only other three topics had <90% of agreement (fertility preservation in Stage Ib2, anti-stenosis device use, and uterine transposition).

In summary, the present study addressed important novel and other underdiscussed topics in conservative management of cervical cancer and may add valuable data to literature.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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