

Journal of **Medicine, Nursing & Public Health**

ISSN Online 2706 - 6606



Successful Term Pregnancy After Modified Shirodkar Cerclage Following Nine Failed McDonald Cerclages: A Case Report

**Edie Francis Ngolle, Karen Kengne Kamga, Mosman Anyimbi Ofeh,
Essoh William Pondji & Andre Gaetan Simo Wambo**

ISSN: 2706-6606

Successful Term Pregnancy After Modified Shirodkar Cerclage Following Nine Failed McDonald Cerclages: A Case Report

Authors: Edie Francis Ngolle^{1,C}, Karen Kengne Kamga^{1,3}, Mosman Anyimbi Ofeh², Essoh William Pondji², Andre Gaetan Simo Wambo^{1,2}

Affiliation:

¹ Obstetrics and Gynaecology Unit, Limbe Regional Hospital, Cameroon

² Department of Obstetrics and Gynaecology, Faculty of Health Sciences, University of Buea

³ Department of Public Health, Faculty of Medicine and Biomedical Sciences, University of Yaounde 1

^C Corresponding author

Corresponding author:

Name: Dr. Edie Francis Ngolle, MD.

Email address: ediefennn6@gmail.com

Phone number: (+237) 675 40 20 84

How to cite this article: Ngolle, E. F., Kamga, K. K., Ofeh, M. A., Pondji, E. W., & Wambo, A. G. S. (2026). Successful Term Pregnancy After Modified Shirodkar Cerclage Following Nine Failed McDonald Cerclages: A Case Report. *Journal of Medicine, Nursing & Public Health*, Vol 9(2) pp. 1-7. <https://doi.org/10.53819/81018102t2603>

Abstract

Background: Cervical insufficiency is a significant cause of second-trimester pregnancy loss. The McDonald cerclage is widely used due to its simplicity and safety. However, in women with profound cervical insufficiency or multiple failed McDonald cerclages, a more robust high cerclage, such as the Shirodkar procedure, may be required.

Case Presentation: We report the case of a 39-year-old Cameroonian woman, gravida 13 para 0, with a history of twelve consecutive second-trimester miscarriages (16–19 weeks), all following failed McDonald cerclages, including a double McDonald cerclage in her eleventh pregnancy. In her thirteenth pregnancy, a modified Shirodkar cerclage using Mersilene tape was performed at 26 weeks under regional anaesthesia. Postoperative management included absolute bed rest and close follow-up. The pregnancy progressed uneventfully until 37 weeks and 2 days, when an emergency caesarean section was performed for labour onset, resulting in the delivery of a healthy male baby weighing 3,800 grams with Apgar scores of 9 and 10.

Conclusion: This case demonstrates that a modified Shirodkar cerclage, even when performed late in gestation, can achieve a successful term pregnancy in patients with multiple failed McDonald's cerclages. It highlights the importance of individualised management for cervical insufficiency, especially in complex or recurrent cases.

Keywords: Cervical insufficiency, Shirodkar cerclage, McDonald cerclage failure, recurrent pregnancy loss, Cameroon, rescue cerclage

<https://doi.org/10.53819/81018102t2603>

1 Introduction

Cervical insufficiency (CI) is defined as the inability of the uterine cervix to maintain pregnancy to term in the absence of contractions or labour, often leading to second-trimester pregnancy loss [1, 2]. Cervical cerclage remains the cornerstone of management for women with CI, particularly those with a history of recurrent mid-trimester losses or a significantly shortened cervix.

The McDonald cerclage, introduced in 1957, remains the most commonly used due to its simplicity and reversibility [3]. However, it may be inadequate in cases with marked cervical shortening or after multiple failed procedures. The Shirodkar technique, described in 1955, offers a more anatomically supportive approach by placing the suture closer to the internal os after bladder dissection and mucosal closure [4].

Recent evidence suggests that in women with recurrent or refractory cervical failure, a high transvaginal or transabdominal cerclage may significantly improve pregnancy outcomes [5, 6]. This case was managed at Limbe Regional Hospital in Cameroon, a tertiary referral and teaching institution that serves as a regional hub for obstetric and gynecologic care in a resource-limited environment. Innovative adaptations of standard surgical procedures are often necessary in such settings to ensure optimal outcomes despite logistical and infrastructural constraints. This report presents a case, illustrating successful term delivery after a modified Shirodkar cerclage following twelve late miscarriages including nine with failed McDonald cerclages. This paper seeks to vulgarise the modified Shirodkar technique and encourage practitioners in similar setting to use it in cases of repeated failure with the more common McDonalds' technique.

2 Case Presentation

A 39-year-old woman, gravida 13 para 0, was referred to our tertiary centre in Limbe regional hospital, Cameroon, after twelve consecutive second-trimester miscarriages between 16 and 19 weeks of gestation (see Table 1). From her fourth pregnancy onward, prophylactic McDonald cerclages using monofilament sutures were placed between 12 and 14 weeks. Despite these, all pregnancies ended in pre-viable delivery due to suture displacement and cervical dilation. A double McDonald cerclage was attempted during her eleventh pregnancy, but the loss recurred at 18 weeks.

Table 1: Summary of Pregnancy History, Interventions, and Outcomes

Pregnancy	Year	Intervention	Gestational Age at Event	Complications / Symptoms	Outcome
1	2012	None	18 weeks	Vaginal bleeding, pain, spontaneous expulsion	Miscarriage (Fetus female)
2	2013	None	17 weeks	Vaginal bleeding, pain, spontaneous expulsion	Retained tissue, miscarriage (F)
3	2014	None	19 weeks	Vaginal bleeding, pain, spontaneous expulsion	Miscarriage (M)
4	2015	McDonald Cerclage	16 weeks	Vaginal bleeding, pain, spontaneous expulsion	Retained tissue, miscarriage (F)
5	2016	McDonald Cerclage	19 weeks	Vaginal gush of fluid, pain, spontaneous expulsion	Miscarriage (M)
6	2017	McDonald Cerclage	19 weeks	Vaginal gush of fluid, pain, spontaneous expulsion	Retained tissue, miscarriage (F)
7	2018	McDonald Cerclage	19 weeks	Vaginal gush of fluid, pain, spontaneous expulsion	Miscarriage
8	2019	McDonald Cerclage	18 weeks	Vaginal gush of fluid, pain, spontaneous expulsion	Miscarriage
9	2020	McDonald Cerclage	16 weeks	Vaginal gush of fluid, pain, spontaneous expulsion	Miscarriage
10	2021	McDonald Cerclage	17 weeks	Vaginal gush of fluid, pain, spontaneous expulsion	Miscarriage
11	2022	Double McDonald Cerclage	18 weeks	Vaginal gush of fluid, pain, spontaneous expulsion	Retained tissue, miscarriage
12	2023	McDonald Cerclage	19 weeks	Vaginal gush of fluid, pain, spontaneous expulsion	Spontaneous abortion
13	2024	Shirodkar Cerclage + Lung maturation at 28 & 32 weeks	26–32 weeks	None	Successful term pregnancy (Cesarean, M)

Prior to her thirteenth conception, she underwent comprehensive counselling and preconception evaluation. Given the history of failed McDonald procedures, the multidisciplinary team recommended a modified Shirodkar cerclage. However, due to personal religious reasons, the patient delayed presentation until 26 weeks of gestation, though she observed absolute bedrest and took progesterone both tablets and injectables prescribed consistently. Ultrasound at admission revealed a cervical length of 24 mm with 12.3 mm partial dilatation and funneling. The membranes were intact and chorioamnionitis was absent at the time of the procedure. She received corticosteroids betamethasone 12mg intramuscularly 24 hourly for 48 hours at the 28 weeks and 32 weeks of gestation for lung maturation.

Surgical technique: Under regional anaesthesia, a modified Shirodkar cerclage was performed following the technique of Sivanesaratnam et al. (1986) [7]. The bladder was reflected cephalad via a transverse incision in the anterior cervicovaginal mucosa. A 5 mm Mersilene tape (Ethicon) was passed submucosally around the cervix at the level of the internal os and tied securely posteriorly. The mucosa was then re-approximated with absorbable sutures, burying the tape.

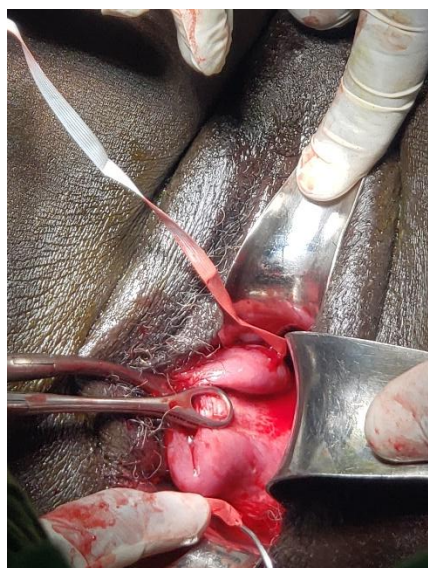


Fig 1A

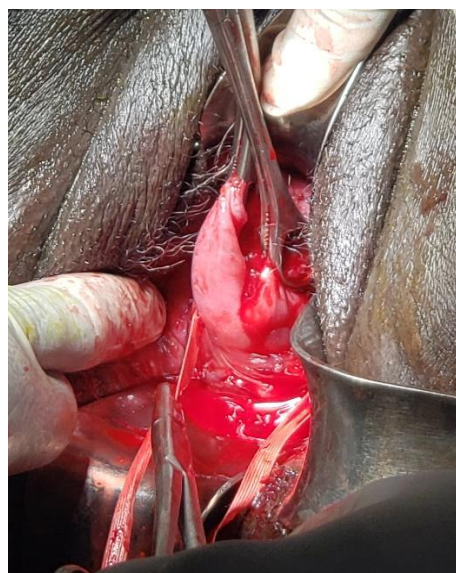


Fig 1 B

Figure 1: Figure 1A shows placement of Mersilene tape after incision and bladder reflection, while Fig 1B shows both ends of Mersilene tape posteriorly before knotting.

Postoperatively, the patient received prophylactic antibiotics and tocolytics and was placed on absolute bed rest. Serial ultrasounds showed a stable cervical length (>30 mm) with no evidence of funneling or infection. The remainder of the pregnancy was uneventful.

At 37 weeks and 2 days, she presented with uterine contractions. Given her history and the presence of a permanent suture, an emergency lower-segment cesarean section was performed, delivering a healthy male baby weighing 3,800 grams (Apgar scores 9 and 10). The mother and baby recovered well, and the Shirodkar tape was left in situ for potential future pregnancies.

3 Discussion

This case highlights the potential success of a modified Shirodkar cerclage even when performed as a late rescue procedure. Although the McDonald cerclage remains effective for most women, it can fail in cases of severe cervical weakness, scarring, or tissue loss [5, 8]. The Shirodkar approach provides superior mechanical support due to its higher placement near the internal os and submucosal embedding, which reduces the risk of slippage and infection [9].

In Cameroon and other Sub-Saharan African settings, recurrent pregnancy loss due to cervical insufficiency often carries profound emotional and social consequences [10, 11]. Access to advanced techniques like the abdominal cerclage techniques is limited making modified Shirodkar cerclage technique particularly important to master especially as it is easier compared to the abdominal techniques but the outcomes are encouraging as seen in our case.

While prophylactic cerclage is typically performed at 12–14 weeks, rescue or “ultra-late” procedures can be considered in specific scenarios, especially when the cervix remains uninfected and membranes are intact [12, 13]. The use of non-absorbable Mersilene tape, as recommended in modified techniques, contributes to durability and the option of reuse in subsequent pregnancies.

Absolute bed rest remains controversial, with mixed evidence regarding its benefit [14]. However, in this case, it may have contributed to the stability and excellent fetal growth observed at term, however this cannot be isolated from other concurrent interventions.

This case further underscores the importance of individualised management of cervical insufficiency. Late or repeated failures with McDonald cerclage warrant consideration of more anatomically robust approaches, such as the modified Shirodkar or transabdominal cerclage, as emphasised by recent reviews [6].

4 Conclusions

For women with recurrent second-trimester losses and repeated McDonald cerclage failures, a modified Shirodkar cerclage can be a viable and effective intervention. Even when performed beyond the conventional window, it can result in a successful term pregnancy. Individualised care, patient counselling, and multidisciplinary collaboration are crucial in managing complex cases of cervical insufficiency in resource-limited settings such as Cameroon. In our patient with the cerclage tape left in situ, all subsequent viable pregnancies will be terminated by an elective cesarean section and the suture will be taken off when the desired family size is attained or earlier if any sign of intolerance or unwanted effect ensues.

5 Patient Perspective

“After losing twelve pregnancies, I had almost lost hope. Each time, I would reach four or five months and then experience the same pain and heartbreak. When my doctors suggested another procedure, I was afraid it would fail again. But I prayed and trusted them. The surgery at six months was difficult, and staying in bed for so long was not easy. Every movement made me

anxious. When I finally held my baby at 37 weeks, it felt like a miracle after years of grief. I am forever grateful to the medical team that gave me this chance to become a mother.”

6 Ethical considerations:

The patient provided written informed consent for the publication of her clinical details and pregnancy outcomes, with all identifying information anonymised to protect her privacy. Management decisions were made in accordance with current obstetric guidelines, and reporting this case contributes to medical knowledge while respecting the patient’s autonomy.

7 Funding

No funding was received for the preparation or publication of this case report.

8 Competing interests

The authors declare that they have no competing interests.

9 Author contribution

- **EFN:** Conceptualisation, patient management, data collection, manuscript drafting, and corresponding author responsibilities.
- **KKK:** Manuscript review, editing and critique
- **MAO:** Literature review, manuscript review, and critical revisions.
- **EWP:** Clinical supervision, data interpretation, and manuscript editing.
- **AGSW:** manuscript review and critical input on clinical content.

10 Acknowledgements

We sincerely thank the patient for her consent and willingness to share her clinical journey. We also acknowledge the clinical team involved in her care for their dedication and support.

11 References

1. Arnold KC, Flint CJ. Cerclage for the management of cervical insufficiency. *Obstetrics Essentials: A Question-Based Review*: Springer; 2017. p. 173-7.
2. Meng L, Oberg S, Sandstrom A, Wang C, Reilly M. Identification of risk factors for incident cervical insufficiency in nulliparous and parous women: a population-based case-control study. *BMC Med.* 2022;20(1):348; <https://doi.org/10.1186/s12916-022-02542-7>.
3. McDonald IA. Suture of the cervix for inevitable miscarriage. *Obstetrical & Gynecological Survey.* 1957;12(5):673-4.
4. Shirodkar V. A new method of operative treatment for habitual abortions in the second trimester of pregnancy. *Antiseptic.* 1955;52:299-300.
5. Issah A, Diacci R, Williams KP, Aubin AM, McAuliffe L, Phung J, et al. McDonald versus Shirodkar cerclage technique in women requiring a prophylactic cerclage: a systematic review and meta-analysis protocol. *Syst Rev.* 2021;10(1):130; <https://doi.org/10.1186/s13643-021-01679-5>.

6. Story L, Shennan A. Cervical cerclage: An evolving evidence base. BJOG. 2024;131(12):1579-86; <https://doi.org/10.1111/1471-0528.17905>.
7. Sivanesaratnam V, Zainal SZ, Rachagan SP. A modified Shirodkar surgical closure of the incompetent cervix during pregnancy. Australian and New Zealand Journal of Obstetrics and Gynaecology. 1986 May;26(2):111-4.doi:10.1111/j.1479-828x.1986.tb01544.x.PMID:3464248.
8. Care A, Nevitt SJ, Medley N, Donegan S, Good L, Hampson L, et al. Interventions to prevent spontaneous preterm birth in women with singleton pregnancy who are at high risk: systematic review and network meta-analysis. Bmj. 2022;376:e064547; <https://doi.org/10.1136/bmj-2021-064547>.
9. Daskalakis G, Papantoniou N, Mesogitis S, Antsaklis A. Management of cervical insufficiency and bulging fetal membranes. Obstetrics & Gynecology. 2006;107(2 Part 1):221-6; <https://doi.org/10.1097/01.AOG.0000187896.04535.e6>.
10. Egbe TO, Nana Njamen T, Halle Ekane G, Tsingaing JK, Tchente CN, Beyiha G, et al. Outcome of late second trimester emergency cerclage in patients with advanced cervical dilatation with bulging amniotic membranes: a report of six cases managed at the douala general hospital, cameroon. ISRN Obstet Gynecol. 2013;2013:843158; <https://doi.org/10.1155/2013/843158>.
11. Sanmi E, Bolanle Op M, Adekunle O O, Abduazeez A H, Yemi B. An Appraisal of Recurrent Miscarriage in Sub-Saharan Africa: Occurrence and Possible Solution. Clinical Journal of Obstetrics and Gynecology. 2024;7(4):103-6; <https://doi.org/10.29328/journal.cjog.1001173>.
12. Joung EJ, Go EB, Kwack JY, Kwon YS. Successful term delivery cases of trans-abdominal cervicoisthmus cerclage performed at more than 18 weeks of gestation. Obstet Gynecol Sci. 2016;59(4):319-22; <https://doi.org/10.5468/ogs.2016.59.4.319>.
13. Ughade PA, Shrivastava D, Chaudhari K. Rescue Cervical Cerclage for Previabile Birth Prevention: A Comprehensive Review of Indications, Techniques, and Outcomes. Cureus. 2024;16(9):e68619; <https://doi.org/10.7759/cureus.68619>.
14. Fox NS, Rebarber A, Bender S, Saltzman DH. Labor outcomes after Shirodkar cerclage. J Reprod Med. 2009;54(6):361-5.