*ejpmr, 2019,6(12), 47-50*

SJIF Impact Factor 6.222

**EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH**

www.ejpmr.com

Research Article

ISSN 2394-3211

EJPMR

# CORRELATED OF CRITERIA CERVICAL CERCLAGE WITH EARLY BIRTH AND NORMAL BIRTH IN TIKRIT PREGNANCY WOMEN

**Assist. Prof. Dr. Nabella Kamel Yakoob*[1], Sammar Mounther Jamal*[2] and Assist. Prof. Dr. Nihad Khalawe Tektook*[3]**

*[1,2]Department of Obstetrics and Gynaecology, College of Medicine, Tikrit University.
*[3]Middle Technical University- Collage of Medical & Health Technology-Baghdad- Iraq.

***Corresponding Author: Assist. Prof. Dr. Nabella Kamel Yakoob**

Department of Obstetrics and Gynaecology, College of Medicine, Tikrit University.

**Article Received on 23/09/2019** **Article Revised on 13/10/2019** **Article Accepted on 02/11/2019**

## ABSTRACT

**Bakground:** During normal pregnancy the neck of the womb (cervix) stays tightly closed, allowing the pregnancy to reach full term. Cervical cerclage is an efficient method to mechanically prevent the cervix from further dilation. **Aim and Method:** This A cross sectional study conducted in Obstetrics and Gynecology ward and outpatient clinic in Salah Al-Din Teaching Hospital at the period from the first of March 2018 to the end of August 2018. Convenience sample of (120) women in different ages. **Results:** A total of 120 pregnant women were included in this study with mean age of 31±6 years; 3.3% of them were less than 20 years age and 58.3% of them were in age group 30-39 years. Mean gravida of pregnant women was (4±2); 10% of them had 1-2 gravida, and 49.2% of them had grvida 5 and more, main indication for cervical cerclage was cervical incompetence and recurrent 2nd trimester pregnancy losses (28.5%), followed by cervical incompetence and preterm labour (21.8%), cervical incompetence (15.1%), etc. Cervical incompetence is depending mainly on history and US indicated (40.0%). Cervical cerclage was done in first time for 54.2% of pregnant women and was done previously for 45.8% of pregnant women. **Conclusion:** The main indication for cervical cerclage are history and U/S indicated present in 40.0% of cases.

**KEYWORDS:** Criteria Cervical Cerclage; early birth; normal birth; pregnancy women.

## BACKGROUND

During normal pregnancy the neck of the womb (cervix) stays tightly closed, allowing the pregnancy to reach full term. Towardstheend ofpregnancy, thecervixstarts toshortenand progressively to becomes moresofter andfavourable, thesechanges are physiological preparations for normal labour and delivery. Sometimes, the cervix starts to shorten and dilates too early, causing either late miscarriage or preterm birth. In theabsence of uterine contractions, the cause of this pathological condition is considered to be cervical insufficiency (sometimes also called incompetence).[1]

The condition has been described as early as the seventeenth century. It has been suggested that cervical insufficiency complicates about 1% of an obstetric population and 8% of arecurrent miscarriage population who have suffered mid-trimester pregnancy losses. There is, however, no consistent definition of cervical insufficiency which hampers any attempt to establish the true incidence.[2]

Prematurity is the single largest factor in neonatal mortality, and is responsible for half of all neonatal deaths, Mortality rises from about 2% for infants born at 32 weeks to more than 90% for those born at 23 weeks.[3] Moreover, handicap or disability arises in about 60% of survivors after birth at 26 weeks and 30% in those born at 31 weeks.[4] Furthermore, preterm birth is associated with a huge cost to the health service because of both the need for intensive neonatal care, often for several weeks, and the continuing support necessary after discharge from hospital.[5]

To solve cervical insufficiency, surgical cerclage of the cervix has been traditionally used for more than 50 years. Cervical cerclage is anefficient method to mechanically prevent the cervix from further dilation. It is also the cornerstone of the treatment of women with an obstetrical history of premature birth and a shortened cervix on ultrasound with a history of cervical insufficiency.[6,7]

A cervical cerclage is a surgical procedure that involves occlusion of the cervix by means of a cervical suture or stitch which is performed under general or spinal anaesthesia proposed by Shirodkar in 1955 and by McDonald in 1957.[8] However, it is still the most controversial surgical intervention since it is put into use despite the lack of a targeted population on which the evidence of a benefit has been well constructed. Varieties of technical aspects of cervical cerclage have been

investigated for their efficacy in prolonging gestation. The opportunities to cervical cerclage are divided into three classifications: prophylactic, therapeutic, and emergency cerclage.[7]

## PATIENTS AND METHODS

**Ethical consideration**: The study was approvedby the ethical committee of the Ministry of health scientific council and Tikrit Medical College. The purpose and procedures explain to all participants and were give the right to participate or not, verbal consent was taken with reassurance that interpret gained will be kept confidentially and not to be used for other research object.

**Study design and setting:** A cross sectional study conducted in department of Obstetrics and Gynecology in Salah El-Din teaching hospital at the period from the first of March 2018 to the end of August 2018.

**Study subjects**

The Study included (120) married women in different ages, with mean age of (31±6) years attending Salah Al-Din Teaching hospital obstetrical ward and gynecological and obstetrical out patients clinicwho are willing to participate in this study and available at the time of data collection selected convenience sampling method.

**Inclusion criteria:** The study included 120 married women in their reproductive age with mean age of (31±6 years) and their parity between 1-6.

**Exclusion criteria:** Pregnant women who did not do cervical Cerclage did not included in this study.

**Data collections:-** Data was collected from subjects via modifiable questionnaire form put it and modified by assistance of supervisor senior. Questionnaire Iasked the women about their information (socio-demographic, obstetricalhistory indication for cerclage, pregnancy outcome, maternal complications, neonatal outcome and complications, medical and surgical history, and drug history) and their phone number and ask about timing of cerclage(gestational age), done by who by direct interview between researcher and women after that clinical examination done first I take apermission from the women to do the vaginal examination after explain nature and the cause of the examination.

Then women laydown in lithotomy position, by use good light and vaginal speculum to visually inspect the cervix for previous scarring, deformity and length to ascertain the feasibility of placing atransvaginalcerclage and send to informed ultrasound to confirm viability of fetus and gestation and cervical length. And to ruleout major congenital anomalies and the results recorded.

**Statistical Analysis:-** Data presented by simple tables, the analysed to test significance by using manual statistical analytic methods.

## RESULTS

A total of 120 pregnant women were included in this study with mean age of 31±6 years; 3.3% of them were less than 20 years age and 58.3% of them were in age group 30-39 years. All these findings were shown in table 1.

**Table 1: The age distribution among study sample.**

| Age mean± SD (31±6 years) | Number | % |
|---|---|---|
| **<20 years** | 4 | 3.3 |
| **20-** | 38 | 31.7 |
| **30-** | 70 | 58.3 |
| **≥40 years** | 8 | 6.7 |
| **Total** | 120 | 100.0 |

Mean gravida of pregnant women was (4±2); 10% of them had 1-2 gravida, and 49.2% of them had grvida 5 and more, these findings were shown in table 2.

**Table 2: The relation of Gravidity and Frequency of cervical cerclage.**

| Gravidity | Number | % |
|---|---|---|
| **1-2** | 12 | 10.0 |
| **2-4** | 49 | 40.8 |
| **≥5** | 59 | 49.2 |
| **Total** | 120 | 100.0 |

The main indication for cervical cerclage was cervical incompetence and recurrent 2nd trimester pregnancy losses (28.5%), followed by cervical incompetence and preterm labour (21.8%), cervical incompetence (15.1%), etc. Cervical incompetence is depending mainly onhistory and US indicated (40.0%). Cervical cerclage was done in first time for 54.2% of pregnant women and was done previously for 45.8% of pregnant women. All these findings were shown in table 3.

**Table 3: Criteria of Cervical Cerclage among Study Sample.**

| Variable | Number | % |
|---|---|---|
| **Indications for cerclage** | | |
| **Cervical insufficiency** | **18** | **15.1** |
| **Recurrent 2nd trimester pregnancy losses** | **16** | **13.4** |
| **Preterm labour** | **8** | **6.7** |
| **Cervical incompetence and recurrent 2nd trimester pregnancy losses** | **34** | **28.5** |
| **Cervical incompetence and preterm labour** | **26** | **21.8** |
| **Recurrent 2nd trimester pregnancy losses and preterm labour** | **24** | **20.1** |
| **Total** | **126** | **105.6** |
| **Cervical incompetence is depending on** | | |
| **History** | **28** | **23.3** |
| **US indicated** | **30** | **25.0** |
| **Rescue** | **14** | **11.7** |
| **History and US indicated** | **48** | **40.0** |
| **Total** | **110** | **100.0** |
| **Cervical cerclage use** | | |
| **1st use** | **65** | **54.2** |
| **Previous use** | **55** | **45.8** |
| **Total** | **120** | **100.0** |

## DISCUSSION

Present study showed that miscarriage was the outcome for two women (1.7%) after cerclage and preterm labour was the outcome of 17.4% of pregnant women after cerclage (0.8% early and 16.6% late). These findings are better than results of Ikimalo et al[9] study in Nigeria which found that pregnancy outcomes after cerclage were miscarriage (9.4%) and preterm labour (21.8%). Our study findings are also better than results of Lakshmi et al[10] study in India which revealed that 10.7% of pregnancies ended in miscarriage and about 50% of pregnancies ended in preterm labour.

These discrepancies in outcomes are attributed to differences Gynecologists skills and sutures applied for cervical cerclage in addition to differences in indications for cerclage between different studies. Abid Al-Kareem study in Iraq[11] found that cervical cerclage had no role in management of triplet pregnancy. Despite these findings, Liu et al[12] retrospective study in China reported that both prophylactic and therapeutic cervical cerclage had great advantages in preventing miscarriage, preterm labour and prorogated the pregnancy duration. This high rate of cesarean section in present study might be due gynecological and obstetrical risk factors other than cerclage causes. In this study, cervical incompetence and recurrent 2nd trimester pregnancy losses were the main indications for cervical cerclage. These results are similar to reports of Brown et al[8] study in Canada which stated that cervical insufficiency and mid-trimester pregnancy loses are the main reasons for cervical cerclage. The history and US indicated cervical cerclage represented the common basis that cervical cerclage depended on for induction of procedure, while rescue cerclage represented only 11.7% of cases. DeFranco et al[13] stated that rescue cervical cerclage has lower incidence rate as it is accompanied with higher complication rates in comparison to elective (history and US indicated) cerclage.

### Abbreviations

Assist prof. Dr. Nihad Khalawe Tektook

Declarations

### Acknowledgement

Thanks to all directors of Salah Al-Din General Hospital.

### Funding

The author (s) received no financial support for the research, authorship, and/or publication of this article.

### Availabil Availability of data and materials

Data will be available by emailing drnihadkhalawe@gmail.com

### Authors' contributions

Assist prof. Dr. Nabella Kamel yakoob[*1] Sammar Mounther Jamal[*2] Assist prof. Dr. Nihad Khalawe Tektook Dr. Sammar Mounther Jamal is the principal investigator of the study who designed the study and coordinated all aspects of the research including all steps of the manuscript preparation. Dr. Nabella Kamel yakoob is responsible for the study concept, design, Dr. Nihad Khalawe Tektook writing, reviewing, editing and approving the manuscript in its final form. All authors read and approved the final manuscript.

### Ethics approval and consent to participate

The protocol was approved by the Ethical Committee of College of Medicine, Tikrit University.

### Consent for publication

Applicable Competing interest

The authors declare that they have no competing interests.

**REFERENCES**


1. Alfirevic Z, Stampalija T, Roberts D, Jorgensen AL. Cervical stitch (cerclage) for preventing preterm birth in singleton pregnancy. Cochrane database of systematic reviews, 2012(4).
2. Alfirevic Z, Stampalija T, Medley N. Cervical stitch (cerclage) for preventing preterm birth in singleton pregnancy. Cochrane Database of Systematic Reviews, 2017(6).
3. Draper ES, Manktelow B, Field DJ, James D. Prediction of survival for preterm births. BMJ: *British Medical Journal*, 2000 Jul 22; 321(7255): 237.
4. Blencowe H, Cousens S, Oestergaard MZ, Chou D, Moller AB, Narwal R, Adler A, Garcia CV, Rohde S, Say L, Lawn JE. National, regional, and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected countries: a systematic analysis and implications. The Lancet, 2012 Jun 9; 379(9832): 2162-72.
5. Petrou S. Economic consequences of preterm birth and low birthweight. BJOG: *An International Journal of Obstetrics & Gynaecology*, 2008 Apr; 110: 17-23.
6. Owen J, Hankins G, Iams JD, Berghella V, Sheffield JS, Perez-Delboy. et al. Multicenter randomized trial of cerclage for preterm birth prevention in high-risk women with shortened midtrimester cervical length. *American journal of obstetrics and gynecology*, 2009 Oct 1; 201(4): 375-e1.
7. Tran PL, Payet G, Barau G, Boukerrou M. Cervical cerclage in Reunion island: Evaluation of physicians' practice patterns. *Journal de gynecologie*, obstetrique et biologie de la reproduction, 2016 Sep; 45(7): 731-7.
8. Brown R, Gagnon R, Delisle MF, Bujold E, Basso M, Bos H, et al. Cervical insufficiency and cervical cerclage. *Journal of Obstetrics and Gynaecology Canada*, 2013 Dec 1; 35(12): 1115-27.
9. Ikimalo JI, Izuchukwu KE, Inimgba N. Pregnancy outcome after cerclage for cervical incompetence at the University of Port Harcourt Teaching Hospital, Port Harcourt. Afr J Reprod Health, 2012; 16(3): 180-184.
10. Lakshmi VGN, Saradha. Pregnancy outcome after cervical encerclage. *Indian Journal of Obstetrics and Gynecology Research*, 2017; 4(3): 301-305.
11. AbidAl_kareem IH. Prophylactic cervical suture in triplet pregnancy. *Tikrit Medical Journal*, 2010; 16(2): 39-47.
12. Liu Y, Ke Z, Liao W, Chen H, Wei S, Lai X, et al. Pregnancy outcomes and superiorities of prophylactic cervical cerclage and therapeutic cervical cerclage in cervical insufficiency pregnant women. Arch Gynecol Obstet, 2018; 297(6): 1503-1508.
13. Shamshad, Mustajab Y, Jehanzaib M. Evaluation of cervical cerclage for sonographically incompetent cervix in at high risk patients. J Ayub Med Coll Abbottabad, 2008; 20(2): 31-34.