International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Chandran I et al. Int J Reprod Contracept Obstet Gynecol. 2024 Oct;13(10):2966-2968
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20242844

Case Report

A novel approach - letrozole in the management of retained products of conception: a case report

Ishwarya Chandran, Ushadevi Gopalan, Karthika Mayilvahanan*

Department of Obstetrics and Gynaecology, Shri Sathya Sai Medical College and Research Institute Under SBV University, Ammapettai, Chengalpattu District, Tamil Nadu, India

Received: 19 August 2024
Accepted: 11 September 2024

***Correspondence:**
Dr. Karthika Mayilvahanan,
E-mail: karthisuresh22@gmail.com

ABSTRACT

Miscarriage affects 15-20% of pregnancies, often in the first trimester, with 1-5% involving retained products of conception (RPOC). Traditional management includes misoprostol or surgical evacuation. WHO guidelines suggest oral letrozole, an aromatase inhibitor, as an alternative for first-trimester medical termination of pregnancy (MTP). This case reports on the effectiveness of letrozole in treating RPOC.A 20-year-old primigravida with persistent vaginal bleeding post-MTP presented with RPOC. Despite prior misoprostol treatment, bleeding continued. Ultrasound revealed RPOC (3.20×2.57 cm) with vascularity. Letrozole 5 mg daily for 5 days was administered after informed consent. Follow-up ultrasound showed complete resolution of RPOC, with no significant side effects. Letrozole, a third-generation aromatase inhibitor, has shown potential in managing RPOC by inhibiting estrogen production, thus facilitating expulsion. This case supports its efficacy and tolerability as an alternative to surgical intervention or traditional medical treatments. Letrozole effectively resolved RPOC in this case, highlighting its potential as a non-invasive treatment option. Further research is needed to validate its standard use for RPOC.

Keywords: RPOC, Letrozole, MTP

INTRODUCTION

Miscarriage is a common early pregnancy complication, occurring in 15-20% of all clinical pregnancies, with the majority in the first trimester.[1] RPOC, which complicate approximately 1-5% of pregnancies, can lead to persistent bleeding and infection. RPOC is more frequent with MTP, second-trimester miscarriage, and placenta accreta.[2] Traditional management of RPOC includes misoprostol regimen, if necessary surgical evacuation.

As per WHO abortion care guidelines oral letrozole, a third-generation aromatase inhibitor is considered as a suitable alternative to misoprostol for first trimester MTP.[3] In this particular patient trial was made to test the effectiveness of letrozole in treating RPOC.

CASE REPORT

A 20-year-old primigravida presented to our hospital with persistent bleeding per vagina for past one month. The patient had previously undergone MTP at 8 weeks one month ago post MTP ultrasonography had shown evidence of retained product of conception (Figure 1) for which misoprostol regimen was given twice by her primary obstetrician. she presented to our hospital as she had persistent bleeding PV even after two weeks post medical management of RPOC.

Upon presentation, ultrasound done revealed RPOC with dimensions of 3.20×2.57 cm in the lower uterine segment with vascularity (Figure 2). Patient was discussed about surgical evacuation but she refused. Hence trial of treatment with oral letrozole was offered after informed

consent. Oral letrozole 5 mg once daily for 5 days was given. Follow-up ultrasound after a week demonstrated complete resolution of RPOC as shown in Figure 3 and the patient experienced no significant side effects. The management with letrozole effectively addressed the RPOC, avoiding the need for further surgical intervention.

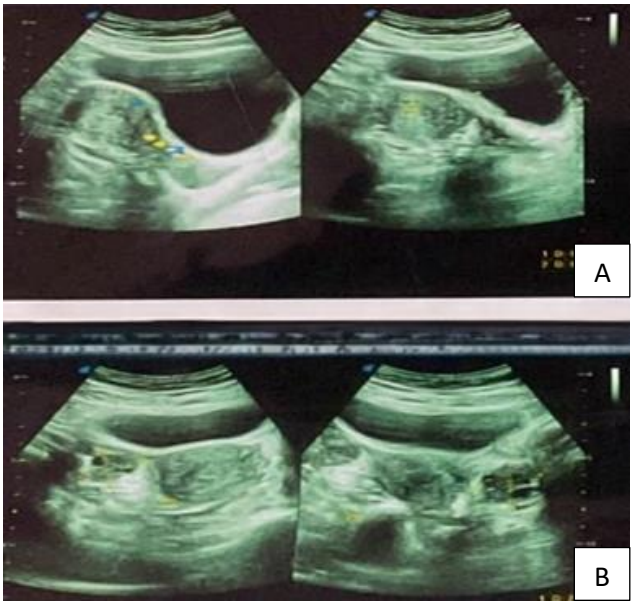

Figure 1 (A and B): RPOC with vascularity.

Figure 2: RPOC dimensions of 3.2×2.5 cm.

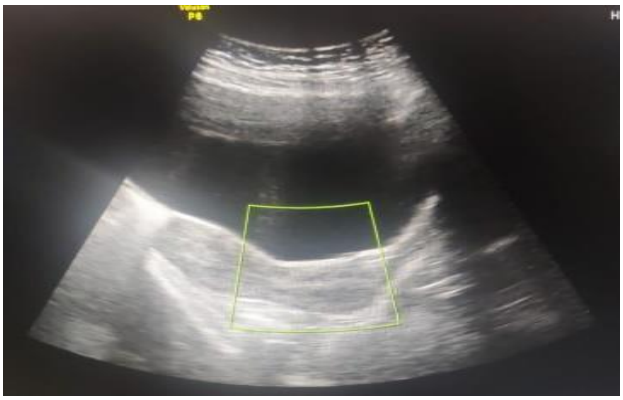

Figure 3: Post treatment with letrozole-no RPOC and vascularity.

DISCUSSION

Role of letrozole, an aromatase inhibitor, mainly used for breast cancer treatment has now expanded for use in infertility as well as in MTP. WHO has recently suggested Letrozole to be an alternative for first trimester MTP.[3] Oral letrozole has a brief half-life of 45 hours and reversibly inhibits the aromatase enzyme.[4] The drug functions by inhibiting estrogen production, which impacts uterine artery resistance and corpus luteum function, potentially facilitating the expulsion of retained products.[5] Based on a study by Vilos A G et al letrozole is effectively used for uterine arterio venous malformation also.[6]

Based on this mechanism of action, various research has been done for exploring its use in management of miscarriage. It has been used as a pretreatment for misoprostol in place of mifepristone or in combination. The study by Nagashiney et al reported a complete expulsion rate of 76.7% with letrozole and sublingual misoprostol, while Lee et al observed an 86.9% complete expulsion rate with letrozole and vaginal misoprostol.[7,8]

Based on this concept, as our patient was not willing for surgical intervention a trial of letrozole was made which proved to be successful. The advantages of letrozole includes its high tolerability, low cost and reduced side effects. Our case highlights that letrozole is a promising alternative for patients who prefer to avoid surgical procedures or allergic to conventional treatment drugs.

Additional research involving more subjects or randomized controlled trials should be conducted before generalizing the use of letrozole for this indication.

CONCLUSION

Letrozole shows a promising potential as an effective treatment option for RPOC. The case presented here demonstrates successful resolution of RPOC with letrozole, highlighting its benefits in reducing the need for surgical intervention in failed medical management. Further studies are needed to establish letrozole as a standard treatment for RPOC.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Chandran I, Gopalan U, Mayilvahanan K. A novel approach - letrozole in the management of retained products of conception: a case report. Int J Reprod Contracept Obstet Gynecol 2024;13:2966-8.