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The Single Rod Subdermal Contraceptive Implant –A New Contraceptive Choice for Indian Women

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Brief Report

Abstract

Subdermal Contraceptive Implants have been available globally for the past three decades. In India, the Single Rod Subdermal Contraceptive Implant was introduced in the private sector in 2018. In March 2023, as part of its FP2030 commitment, the Government of India introduced Single Rod Subdermal Contraceptive Implants and Depot Medroxy Progesterone Acetate subcutaneous injections into the basket of choices of contraceptives.

The addition of contraceptive implants has widened the choices for women to suit their contraceptive needs. The Single Rod Subdermal Contraceptive is a safe and effective option.

Key Words: Contraceptive Implants, Single Rod, Subdermal implants

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Introduction

India, one of the most populous countries in the world, was also among the first countries in the world to launch a National Family Planning Programme in 1952 [1]. Over the decades, the programme has transformed from a focus on population stabilization to a broader aim of improving reproductive health.

The current population of India is 1.46 billion. The total fertility rate in India has declined to 1.9, below the replacement level of 2.1 [2].

The National Family Planning Programme now focuses on the healthy timing and spacing of pregnancies to improve the reproductive health of women and to reduce maternal, infant and child mortality and morbidity.

As a commitment toward FP2030, the government of India introduced two new Long-Acting Reversible Contraceptives (LARCs) namely the Single Rod Subdermal Contraceptive Implant and the Depot Medroxy Progesterone Acetate (DMPA) subcutaneous injection in March 2023 [3].

Contraceptive Implants have been available globally for the past three decades. The Government of India has introduced contraceptive implants after long-term studies conducted by the Indian Council of Medical Research.

The Single Rod Subdermal Contraceptive Implant

The Single Rod Subdermal Contraceptive Implant available in India is called Implanon NXT [4]. It is one of the most advanced applicators, which is a preloaded, disposable applicator with a needle for single use, with a single rod for subdermal insertion. The Implant is 4 centimetres in length and 2 millimetres in diameter,and contains 68 milligrams of the Progesterone hormone called Etonogestrel along with Barium sulphate. The Single Rod Subdermal Contraceptive Implant is safe and is 99.95% effective. The contraceptive effect lasts for three years.

Figure1. Implanon NXT.

Mechanism of Action: The Single Rod Subdermal Contraceptive Implant contains 68 mg of Etonogestrel, which is a biologically active metabolite of Desogestrel and structurally derived from 19-Nortestosterone. Like all progesterone-only contraceptives, there are three ways in which it brings about the contraceptive effect. Firstly, etonogestrel inhibits ovulation, secondly, it makes the cervical mucus thick and impermeable to sperm, and, thirdly, it makes the endometrium thin and unfavourable for implantation. The contraceptive effect starts within 24 hours of insertion, and there is early return of fertility upon removal [5].

Selection of Clients: Contraceptive Implants are suitable for most women who desire a LARC. They can be used by women aged 18 to 45 years, whether nulliparous or multiparous. Implants can be used post-menstrually, postpartum or in the post-abortal period, including by breastfeeding women.

Pre-insertion Counselling: The pre-insertion counselling is important to appraise the client regarding procedure of insertion and the advantages and disadvantages of the contraceptive implant. Explanation regarding the menstrual changes which may occur will help in continuation of the method.

Timing: The Single Rod Subdermal Contraceptive Implant can be inserted post-menstrually, postpartum, or in the post-abortal period. It can be inserted at any time, provided it is reasonably certain that the client is not pregnant. However, in such cases, the client needs to use a backup method for seven days.

Procedure of Insertion: The Single Rod Subdermal Contraceptive Implant must be inserted by a trained provider. It can be inserted in a clean room and does not require an operating theatre or any sophisticated equipment. It is inserted with all aseptic precautions under local anaesthesia. The implant is inserted in the medial aspect of the non-dominant upper arm. The location of the insertion of the implant is initially marked with a marker pen. The implant is inserted 8-10 centimetres proximal to the medial epicondyle, and 3-5 centimetres posterior to the sulcus between the biceps and the triceps muscle in the subdermal region. This new location is safe as it is away from the sulcus, which lodges the neurovascular bundle.

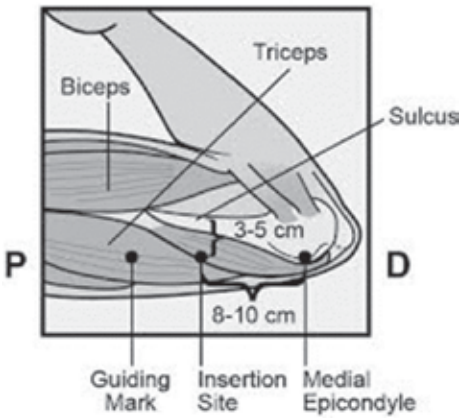

Figure 2: Site of insertion of Implant.

Post-Insertion Care and Counselling: Counselling regarding post-insertion care is important. The client is advised to keep the dressing dry for 5 days and is advised to visit the facility if she experiences any acute symptoms. Follow-up visits are recommended at six and 12 weeks to address any concerns, allay fears, clarify doubts and manage any medical issues.

Removal of Implant: The Single Rod Subdermal Contraceptive Implant is removed after three years, or whenever the client wishes removal. Removal of the implant is a simple outpatient procedure done under local anaesthesia.

Side Effects: The side effects of the Single Rod Subdermal Contraceptive Implant are similar to all progesterone-only contraceptives. The main side effects are menstrual disturbances like amenorrhoea, infrequent menstruation, irregular bleeding, spotting, prolonged bleeding and heavy bleeding. Other side effects include headache, acne, mood changes, mastalgia and weight gain.

Advantages: The Single Rod Subdermal Contraceptive Implant is safe, effective and easy to use. It is an outpatient procedure. It can be used in women of any age and parity. It can be used in breastfeeding women and those with chronic medical conditions like diabetes and hypertension. It is also suitable for women in whom oestrogen containing contraceptives are contraindicated.

Disadvantages: The Single Rod Subdermal Contraceptive Implant has very few disadvantages. The client needs to come to the facility for insertion and removal. The provider should be trained to insert and remove the implant.

Contraindications: The Single Rod Subdermal Contraceptive Implant has very few contraindications. Current breast cancer is an absolute contraindication for insertion of the implant. Other contraindications include a history of breast cancer and severe liver disease.

Conclusion

The Single Rod Subdermal Contraceptive Implant is a new contraceptive choice for Indian women. The indications for Contraceptive Implants are broader, the contraindications are limited, and the side effects are few. It is easy to use, safe and highly effective. It supports healthy timing and spacing of pregnancy and addresses the unmet need for contraception.

Use of Artificial Intelligence Assisted Technologies

During the preparation of this work, the authors used generative AI in order to improve the language and readability. After using this tool/ service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Data Availability Statement

This brief report does not report new research data. All information discussed is derived from publicly available sources, previously published literature, or the author's own perspectives and analysis. Relevant references have been cited within the manuscript.

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Conflicts of Interest

Author declares that there are no conflicts of interest.

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