



Update on contraception – 4

In the previous article of the CME series on contraception we discussed a few of the recent developments and frequently encountered issues when providing family planning services [1]. The methods discussed were the oral contraceptives, injectables, natural methods, condoms and the IUD. This article will deal with implants and permanent methods. The information will be presented in the form of a question and an answer.

What are contraceptive implants?

Contraceptive implants are progestogen containing devices that provide highly effective long acting reversible contraception. They are plastic rods or capsules the size of about a match stick which are placed subdermally in the upper arm under local anaesthesia.

For whom are contraceptive implants suitable?

Implants are ideal for spacing, since these provide highly effective reversible contraception for 3 to 5 years with minimal client compliance and follow up. These can be used by clients with valvular heart disease who often require highly effective contraception as they do not contain oestrogen. Even though it is especially useful for the above mentioned categories it can be used by any client provided they have no medical contraindication for its use [2].

What are the different types of implants available?



'Norplant' was the first implant to be developed and consisted of six capsules each containing 36 mg of levonorgestral which provided contraception for five years. It was introduced to the family planning programmes in the mid '80s and was first used in Sri Lanka in 1989. In many countries this has now been discontinued mainly due to the difficulties encountered in removal of the six capsules. In Sri Lankan national programme too Norplant was replaced with the single rod implant 'Implanon' in 2006.



This is a single rod implant which contains 68 mg of etonogestral providing contraception for 3 years. The main advantage over 'Norplant' was the ease of insertion and removal as it consisted of a single rod. The insertion trochar being supplied with the implant in the package was an additional advantage.



The latest implant to be introduced is 'Jadelle' which consists of 2 rods each containing 75 mg of levonorgestral. It is available in the national family planning programme and in the private sector. It is distributed by the Family Planning Association of Sri Lanka.

How are implants inserted?

What is given below briefly is the technique used for the presently used 'Jadelle'. The techniques for the other implants are very similar. Implants should only be inserted after proper training including practice on a model.

Ask the patient to lie down on the table with her non dominant arm extended at right angles to her body, externally rotated and bent at the elbow. The implants are inserted in to the medial aspect of the upper arm 6-8 cm above the fold of the elbow in the shape of a narrow 'V'.

After cleaning the area with antiseptic solution, 2-4 ml of 1% lignocaine is injected subdermally to anaesthetise the 'V' shaped area in which the implants are going to be located. A small incision of about 2 mm is made about 4 finger breaths (6-8 cm) from the medial epicondyle to insert the trochar.

The trochar is inserted through the opening and advanced in the direction of one arm of the 'V' shaped area anaesthetised until the horizontal mark closest to the handle of the trochar is at the skin incision. It is important to tent the skin upwards with the trochar throughout the insertion to ensure that it is in a superficial subdermal position.

The plunger is removed and the first rod of the implant is inserted into the canal of the trochar. It is gently pushed in with the plunger until a resistance is felt. Holding the plunger steady the trochar is withdrawn gently until the horizontal mark closest to the tip of the trochar is seen at the skin incision. This releases the first rod into the subdermal space created by the trochar and can be confirmed by palpation.

The direction of the trochar is now changed by moving the handle sideways while keeping the tip under the skin to have it pointing towards the other arm of the 'V'. The trochar is advanced and the second rod is loaded and released in the same manner as the first.

The edges of the skin incision is pressed together (no suturing is required) and the wound closed with a dressing and a plaster. It is important to maintain asepsis throughout the procedure. A gauze bandage is applied tightly over the area in which the implants are located to prevent haematoma formation.

The bandage is removed in 24 hours. The wound needs to be kept dry for 72 hours after which the plaster is removed and the client can take a bath. Follow up required is minimal. The client is advised to come after 4 weeks and thereafter annually for the routine review. She is also advised to come if she experiences any side effects or complications.

What are the common problems encountered with the use of implants?

The commonest side effects are the menstrual disturbances. This is mostly experienced during the first

6-9 months after which it generally improves and becomes more regular. The commonest menstrual irregularity is increased duration of bleeding (27%) followed by irregular periods (20%) spotting (15%) and amenorrhoea (12%). Such bleeding is usually due to a thin endometrium caused by persistent progesterone influence and could be treated with a small dose of oestrogens for a 7-10 days after excluding other causes for the bleeding. Many studies have shown that counselling the clients of the menstrual disturbances prior to insertion is a key factor in improving continuation rates. Headache, leucorrhoea, pelvic pain, weight increase are some of the other commonly reported side effects.

When and how to remove an implant?

Implants need to be removed at the end of its duration which is 5 years for 'Jadelle'. It can be removed at any time prior to that for medical, e.g. side effects not responding to treatment, or personal reasons, e.g. wanting to have a baby. The key to easy removal is proper insertion.

The area is cleaned with antiseptic and the implant is located by palpation. 1-2 ml of 1% lignocaine is injected underneath the lower ends (ends close to the previous incision) of the rod. A small incision of about 0.5 cm is made horizontally at this site. Each rod is gently pushed towards the incision by applying pressure with the fingers on the upper end. When the tip of the rod is seen protruding through the incision it is grasped with mosquito forceps and gently pulled out. Often there is a tissue capsule covering the rods which needs to be opened with the scalpel or gauze before pulling the rod. Repeat the procedure for the second rod. Incision closure and after care are the same as for insertion. Removal should only be done after a proper training including practice on a model.

What is the place of permanent methods in the basket of contraceptives?

From the basket of contraceptives offered to the clients, the permanent methods (sterilisations) are the most widely used world over. The high efficacy, minimal follow up and the absence of side effects makes it ideal for the couples who have completed their families. The newer long acting reversible contraceptive methods have become attractive alternatives to sterilisation.

What are permanent methods of contraception?

Female sterilisation (tubectomy) and male sterilisation (vasectomy) are the two methods of permanent contraception. In tubectomy the fallopian tubes are occluded bilaterally whilst in vasectomy the two vas deferens are occluded.

There are two methods that are widely used for female sterilisation, i.e. minilaparotomy and the laparoscopic technique. Minilaparotomy is a method which can be used

for both post partum (first 48 hours after delivery) and interval sterilisation (any time after the first six weeks post partum). It can be performed with minimum amount of equipment by anyone who has basic surgical skills. A variety of methods of tubal occlusion, i.e. ligation and excision, mechanical devices and coagulation have been used with the technique of minilaparotomy. The laparoscopic technique requires endoscopic equipment and more specialised skills. The tubes are occluded using rings, clips or coagulation. Both methods can be performed under general or local anaesthesia.

How should a couple be counselled for sterilisation?

Since sterilisation is a permanent method, counselling is one of the most important steps in the procedure. Counselling should be done in advance allowing sufficient time for a well considered decision. In the case of post partum sterilisation the counselling is best done in pregnancy well before the expected date of delivery.

The important aspects that need to be addressed during the counselling session include:

- a) The permanent nature of the procedure – It should be stressed that reversal, if required, is a major surgery that needs to be done in a specialised centre, with success not assured.

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- b) The failure rate – The failure rate which is less than one per cent could be due to imperfect blockage or recanalisation.
- c) Complications – The commonly encountered complications are minor, such as wound site infection. Rarely major complications like internal bleeding and bladder and bowel injury may occur.
- d) Other options – They should be informed about the other long acting reversible methods of contraception such as the IUD and implants.
- e) Details of the procedure – It is a minor surgery done under local anaesthesia taking about 15 minutes. The surgery is done through an incision just below the umbilicus or about 2 cm above the pubis. The client will have mild pain at the time of surgery which will reduce over the next few days. The client can leave about 3 hours after the procedure. She needs to rest for about 2-3 days and refrain from severe exertion for about 7 days.

References

1. Wijemanne S, Seneviratne HR. Update on contraception – 3. *Ceylon Medical Journal* 2010; **55**: 60-6.
2. Wijemanne S, Seneviratne HR. Update on contraception – 2. *Ceylon Medical Journal* 2010; **55**: 26-9.

It is with sadness that we announce the untimely demise of Dr S Wijemanne on 24 October 2010.

– Editors