



COPPER IUD: ITS EFFECTIVENESS AND ITS SIDE EFFECTS IN DAILY LIFE

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Abstract: Copper is an essential element in humans and animals, The intrauterine device is introduced in 1909 as contraception by Richter. The IUD is used by more than 150 million women worldwide. It is the most frequent and reversible method of contraceptive and the failure rate approx. 1:1000. The literature reviewed discussed efficiency, benefits, side effects, procedure of copper-T insertion as well as removal and cost of IUD.

Index Term- Copper T, intrauterine device, Neoplasm, Uterine perforation etc.

INTRODUCTION

Copper is an important trace element in animals and humans. When excessive intake of copper, it can accumulate in the tissue and organ of animal that leading copper toxicity, mediated mitochondrial dysfunction, copper induce cell death. ⁽¹⁾

Introduce intrauterine device as a contraception in 1909, by Richter. The intrauterine device (IUD) is used by more than 150 million women worldwide. It is the most frequently used reversible method of contraception, with a remarkably low failure rate of less than 1 : 100 women in the first year of use, the Copper T-380A is in the top tier of contraceptives in terms of efficacy. There have been further developments and modifications in intrauterine devices. IUD is made up of a variety of materials such as steel, silk worm gut and copper etc. It is highly effective in preventing pregnancy like other contraceptive methods, but it has some side effects which may be serious such as endometriosis, pain, bleeding, PID, uterine perforation and pregnancy. Although uterine perforation and sepsis are serious complications. Its complication is uncommon and asymptomatic. ⁽²⁾

What is IUD

According to Emily L, Lanzole (2024), Copper T is a intrauterine device that is one of the most renowned contraceptive methods as well as reversible and long-lasting method. The failure rate is very low, approx. 0.02%. ⁽³⁾

According to the Food and Drug Administration (FDA), The copper T used for 10 year and not more than 10 year and its removed. According to ACOG Clinic (2017), Copper T is a T shaped device that is wrapped in polyethylene and copper around the stem and arms. It is placed in the uterus that prevents pregnancy. A thread allow for checking the position of the copper-T. Its surface area is 380. ⁽⁴⁾

How to work : According to the Myo-clinic : Copper T consists of copper wire coiled around a copper T, which can produce an inflammatory reaction responsible for creating toxic environment. This toxic reaction affects sperm and ova, It prevents pregnancy. ⁽⁵⁾

Efficiency : Copper IUD is more than 99%effective compared to other family planning methods such as

- Pill, patch and vaginal ring work 93%
- Condom 98%
- No medicine interferes with its work

Benefits : Copper T has so many benefits and are most convenient as well as easy to implant

- Quick return fertility without taking time/delay
- **Hormone free:** In this device does not consist of any type of hormone and does not interfere work of natural hormone. ⁽⁶⁾
- Low risk of pregnancy
- less side effects.
- Long- lasting used

Side effects : Overall, the copper IUD is safe and effective to the birth control but some risk which...

- **Uterine infection:** Uterine infections can occur if not using aseptic technique while procedure. So, the women suffering from Chills, fever, painful sex, vaginal discharge and bleeding. ⁽⁷⁾
- **Uterine fibroids:** Uterine fibroid usually occurs due to incorrect placement of the device, but it occurs rare.
Risk: The uterine fibroid is cured by the non- hormonal IUD, it cut off blood supply to the fibroid (according to FAQ) ⁽⁸⁾
- **Cervical cancer& Breast cancer:** According medical journal JAMA, increase the risk of the breast cancer 1600:150,000 new patient who used Hormonal IUD and diagnosed with breast cancer but risk overall 40% for all the women who used IUDs ⁽⁹⁾
- **Ovarian cysts:** Ovarian cysts are other side effects of the IUD, with an occurrence rate approximately 1:10 in first year use of IUD. The ovarian cysts are fluid filled sac in the ovaries which do not so any type of symptom, although some women feel lower abdominal pain.
- **Uterine perforation:** Uterine perforation mainly occurs while procedure inserting IUD, particularly if the uterine wall is weak and migrate another place. The perforation rate is low approx. 0.2% at 1 year. ⁽¹⁰⁾
- **Expulsion:** expulsion means missing copper intrauterine device that is not present in the uterus, abdominal cavity, pelvic cavity and ovary.
The expulsion rate approx. 3-5% ⁽⁷⁾
- **Pregnancy:** The woman is pregnant while using IUD and its rate is very low, at approximately 1%, it may be dangerous as well as arise the risk for miscarriage and infection. ⁽¹¹⁾
- **Ectopic pregnancy:** The ectopic pregnancy rate 1in1000.

Procedure

The insertion of the IUD is a procedure in which plan the IUD in the uterus by the following steps which is given below ...

- 1: Briefly explain the procedure to the patient and sign the consent by patient and obtain their consent.
- 2: Position the patient in lithotomy.
- 3: The healthcare provides conduct a pelvic examination to measure length, shape, size to the uterus.
- 4: Open the vaginal with the help of a speculum
- 5: Clean the vagina, cervix and cavity with an antiseptic solution.
- 7: Insert the IUD into uterus through cervix. ⁽¹²⁾

Removal: The intrauterine device should be preventing pregnancy up 3-10 years as well as depend on the type of IUD. There are several reasons for removal of the copper T.....

- It expired
- Women want to be pregnant
- Women face or experience side effect such as bleeding, pain, vaginal discharge,
- Sometime the doctor advice to remove IUD due to PID, STD, and heart disease.

After removing the Copper T or IUD and, it is advice to avoid sex up to 6 to 7 days. ⁽¹³⁾

Cost :

In government hospital, provide services charges regarding Cu-T IUD and Hormonal IUD, it depends on the procedure ^(14, 15)

Conclusion :

S/N	HEALTH AGENCY	IUD	INSERTION CHARGES	REMOVALCHARGES
1	Government hospital	Cu-T	No	NO
		Hormonal	No	No
2	Private Hospital	Cu-T	200-1000	500-15000
		Hormonal	5000-15000	5000-15000

Conclusions: Copper is an essential element in humans and animals , The intrauterine device is introduced in 1909 as a contraception by Richter. The IUD is used by more than 150 million people worldwide. It is the most frequent and reversible method of contraceptive and the failure rate approx. 1:1000 women per year. This reviewed article is regarding benefits, side effects, procedure, removal as well as cost of the IUD.

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