

# Complications with Implanon as Contraceptive

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**Objective:** The objective of the study was to assess the complications with Implanon contraceptive.

**Study Design:** Descriptive.

**Place and Duration of study:** The study was conducted in Gynae unit I in collaboration with family planning centre in Nishtar Hospital Multan, from Jan 2004 to Jan 2007.

**Patients and Methods:** A total of 45 women of reproductive age group were selected and after taking complete history, examination and investigations, all women suitable for Implanon were included and those who had hypertension, diabetes mellitus, obesity and pelvic pathology were excluded from the study.

**Results:** The main complaint in study was menstrual disturbance. Out of 45 women, 20 developed amenorrhoea, 14 complained of irregular vaginal bleeding. And only 6 women presented with frequent periods. However normal menstrual cycle was observed in 6 women. No change was observed in weight in 15 women, while 12 women complained of mild weight reduction. Weight gain upto 2 kg was observed in 18 women. Only 10 women complained of breast tenderness and skin problem was observed in 5 women. Out of 45 women, 39 were satisfied but 6 asked for removal due to menstrual disturbance.

**Conclusion:** Implanon like other systemic progestogens is not free of complications. Amenorrhea and infrequent irregular periods are the main complaints, while weight gain and acne are minor problems.

**Key Words:** Hormonal contraception, Third generation progestogen(etonogestrel), Implanon, Menstrual irregularities

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## Introduction

Among the implants, implanon is the new modified form of norplant. It is subdermal device containing 68 mg of selective<sup>1</sup> progestogen (etonogestrel). It is a single rod device that provides contraception for three years,<sup>1</sup> Implanted under the skin in non-dominant upper arm. Special equipment and technical proficiency are required for its insertion and removal. It's duration of contraceptive efficacy is three years, achieved by continuous and daily release of a 30 µg etonogestrel which simultaneously suppresses ovulation during the total period of insertion and makes cervical mucous thick. It also makes endometrium unfavorable for implantation.<sup>3-7</sup> As far as its efficacy is concerned it is the only method whose pearl index is 0 (95% confidence interval 0.0-0.2).<sup>8</sup> Within 24 hours of its removal, plasma concentration of progestogens are below contraceptive used and most women resume normal ovulatory activity during the first month after removal.<sup>9</sup> It shows only minor metabolic changes when compared with other systemic contraceptives in spite of sustained release of low dose etonogestrel.<sup>1</sup>

Implanon has no significant effects on growth or health of infants whose mother used during lactation.<sup>10</sup> In a comparative study with mothers using an IUD, it is found that only small amount of etonogestrel is excreted in breast milk.<sup>11</sup>

No doubt implanon has no alternative but still there are some disadvantages. It is a surgical procedure and does have some cosmetic concerns. Patients have reported weight gain

with its use. Menstrual irregularities<sup>12</sup> may also lead to discontinuation of contraception. Being a progestogen, it is not free of progestogen related symptoms like breast changes and skin problems like acne.<sup>13</sup>

## Patients and Methods

The study was conducted in the department of obstetrics & gynecology unit I in collaboration with Family planning Centre Nishtar Hospital Multan from Jan 2004 to Jan 2007.

Forty five women were selected. Purposive (non probability) sampling technique was used. All women of reproductive age group, wanting long term reversible contraception were included in this study, and women who had hypertension, diabetes mellitus, obesity and pelvic pathology were excluded.

A proforma/questionnaire was developed comprising of demographic data and status of parity, lactating/non lactating, duration of contraception required and age of last child born. Menstrual history including date of last periods, average length of cycle in days, average duration of Menstrual flow in days, average amount of flow, dysmenorrhoea and intermenstrual bleeding within 90 days of reference period (RP) was taken. Previous method of contraception, and the reason of its change was recorded. Previous skin problem and history of breast lump or other problems were asked.

After thorough general physical and systemic examination, investigations like Hb%, urine analysis, random

blood glucose level, pap smear and ultrasonography were done. Then the suitable candidates according to the inclusion and exclusion criteria were selected and counselled. Adequate information about Implanon was revealed to the women, for example type of contraception, its mechanism of action and about its insertion and removal. Information about possible complications was also provided to the women. Implanon were inserted in agreed women and lastly follow up visits after one month, three months, and then after every six months were advised.

It was a descriptive study so SPSS 10.0 computer programme was used to calculate the frequency and percentages of complications. Chi-square test was applied to compare variables where needed. A p-value of < 0.05 was considered significant.

**Results**

During a follow up study of three years, 45 women came to master training centre that fulfilled the criteria for insertion of implanon.

First important consideration was age; the age group was lying between 19–35 years. The age group 25–30 years was standing on the top, accounting for 23 women (51.12%). Other age groups 19–24 years and 31–35 years both were having women (24.44% each) as shown in table 1.

As far as parity is concerned, those having parity

between 3–4 comprised more than half of the participants constitutions 31 out of 45 (68.89%), while 13 (28.90%) were those between 1–2 as shown in Table 1.

Lactating females were 35 (77.78%) and non lactating being the remainder as shown in Table 1.

In the category corresponding to weight changes, no change was observed in 15 women (33.33%), 28.90% had weight gain more than 2 Kg and weight reduction was observed in 12 women (26.67%) as shown in table 2.

No Breast tenderness was observed in 35 (77.78%) women. The remainder 10 females (22.22%) had breast pain that previously remained symptom free (Table No. 2). Only 5 women (11.10%) were presented with skin problems (table 2).

Changes in menstrual pattern were followed very closely, 6 women (13.33%) enjoyed normal menstrual patterns. 20 women (44.44%) developed amenorrhea. 13 women (28.90%) complained of irregular infrequent periods and only 13.33% were menorrhagic as shown in table 3.

Thirty nine women (86.67%) revealed complete satisfaction with the product, while 6 women (13.33%) complained about discomfort due to various factors. A significantly higher number of patients showed satisfaction with product (p<0.05). Out of these 6, 2 asked for removal as mainly menstrual irregularities had made the life uncomfortable. So, there were 86.67% women who continued and 13.33% asked for removal.

**Table 1:** Demographic features of women.

Demographic Features	Age			Parity			Lactation Status	
	20 – 24 Years	25 – 30 years	31 – 35 years	P 1 – 2	P 3 – 4	P > 5	Lactating	Non-Lactating
No. of patients	11	23	11	13	31	1	35	10
% of patients	24.4%	51.125%	24.44%	28.90%	68.89%	2.21%	77.7%	22.22%

**Table 2:** Complications of Implanon.

Complications of Implanon		No. of Patients	% of Patient
Weight	No Chance	15	33.33%
Changes	Reduction	12	26.67%
	Increase < 2 kg	5	11.10%
	Increase > 2 kg	13	28.90%
Skin	No Problem	40	88.90%
Problem	Acne	5	11.10%
Breast Pain	Yes	35	77.78%
	No	10	22.22%

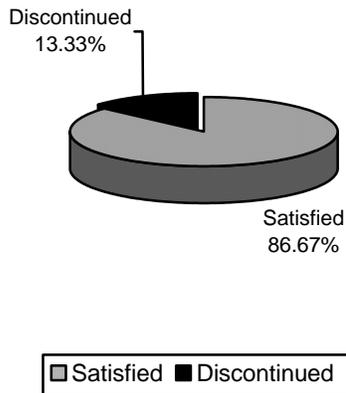
**Table 3:** Menstrual problems with Implanon.

Menstrual Problems		
Observation	No. of Women	Percentage
Normal Menstruation	6	13.33%
Amenorrhea	20	44.44%
Menorrhagia	6	13.33%
Irregular Periods	13	28.90%

planning is especially problematic in rural areas of Pakistan<sup>17</sup> as reported by Casterline, Zeba A, Sattar and inhajul Haque<sup>18</sup>. The current problem of adopting family planning methods in Punjab is mainly from social and cultural constraints, in the same manner. Snow et al<sup>19</sup> reported that women of Pakistan were deprived of privacy and required such contraceptive which does not require preparation before-

**Discussion**

Contraception is defined as “preventing pregnancy without avoiding coitus”.<sup>2</sup> However it has been found that family



**Fig. 1:** Satisfaction Rate (n=45).

hand.

Variety of contraceptive methods have been identified which can be used by various routes.<sup>20</sup> Among the long term reversible hormonal contraception, implanon, comes after Norplant, as new modified form, provides contraception for three years. It is the only choice when compliance is an issue.

But in spite of its great advantages over the other methods, due to its systemic route, it is not free of some disadvantages in the form of menstrual problems, acne, weight changes and breast tenderness. Some of these problems may lead to discontinuation of implanon.

A three years follow up study from January 2004 to January 2007 was carried out in family planning and Reproductive Health Centre, Nishtar Hospital Multan, with an objective to assess complications. A total 45 women were included in this study. Present study covered the following complications with use of implanon e.g. menstrual irregularities, weight changes, skin problems like acne and breast tenderness, as these problems are the main factors for discontinuation of implanon in different studies.

The main side effect with implanon is disruption of normal menstrual cycle as revealed by Sergent whose study constitutes 83% menstrual disturbances,<sup>14,15</sup> whereas in our study 85% women suffered with the same problem.

Out of 45 women, 20 (44.44%) were amenorrhic, 6 (13.33%) reported frequent periods and 13 (28.90%) were those who suffered with infrequent irregular periods. These results are strongly supported by the study conducted by Sergent<sup>15</sup> in which 26% amenorrhic and 40% women represented with irregular bleeding pattern. Similar findings were reported in a study of Croxatto HB<sup>8</sup> in which infrequent periods was the main menstrual disturbance.

As we already know that weight gain with use of systemic progestogen is frequent complaint of most women but in our study, no change of weight observed in 15 women (33.33%) but 18 women (40%) presented with weight gain

up to 2 Kg, which is same as reported by Sergent<sup>15</sup> where 37% women complained of weight gain and it was the main reason of discontinuation in the study conducted by Urban-csek.<sup>13</sup>

Twenty two percent women complained of breast tenderness in our study which is significant when compared with another study, which reveals non-menstrual complaints in only 1% of women.<sup>15</sup> But results of our study are strongly supported by Croxatto HB<sup>8</sup> where 16% women presented with breast tenderness.

Skin problems like acne which is sometimes become so horrible to compel to discontinue its use, but in our study only 12% women developed acne and same results were observed by Croxatto in his study.<sup>8</sup>

In present study, only one case was reported at age of 35 years which is in contrast to the study of Booranbunyat S and Taneepanich Skul S in Thai in June 2004 who reported a study in which women belonged to age group of 35 years and above.<sup>22</sup> The mean age group in our study is 21–29 years, which is strongly supported by study of Rai K and Gupta in which median age of fitting was 25 years.<sup>16</sup>

Out of 45 women, 31 cases (68.89%) were standing in parity group P<sub>3</sub> – P<sub>4</sub> in contrast to the study in London where 36% women were nulliparous.<sup>16</sup>

As far as failure is concerned none of the women become pregnant which is in accordance with the results reported in all studies of Implanon.

Discontinuation was requested by 13.33% of the women in this study, being similar to the results of study conducted by Croxatto HB,<sup>8</sup> but discontinuation rate was only 2% in a study by Zheng SR in South East Asia.<sup>14</sup>

In present study 86.67% women were satisfied and similar percentage was observed by Smith A.<sup>22</sup>

### Conclusion

Implanon is the most effective contraceptive method in society because it is convenient, available, free of cost, long term and reversible contraceptive method for 3 years containing etonogestrel (third generation progestogen). It is highly reliable, independent from user compliance having good tolerability with simple and quick removal and insertion. But it is not free of complications regarding menstrual problems. Amenorrhea and infrequent irregular periods are main changes experienced by majority of users. None of the user felt any breast pain during implanon use. But some users developed acne and only 1/3 user found increase of their weight above 2 kg during the use of implanon.

We can improve its continuation rate with proper information and counselling before insertion, as if the client is well informed about its expected minor complications then the acceptance will be increased.

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