One Year Study of Implanon on the Adverse Events and Discontinuation

Somsak Chaovisitsaree, MD*, Wirawit Piyamongkol, MD, PhD*,
Saipin Pongsatha, MD*, Nuntana Morakote, MPH*,
Supranee Noium, BSc*, Nuchanart Soonthornlimsiri, BSc*

** Department of Obstetrics and Gynecology, Faculty of Medicine, Chiang Mai University*

Objective: *To determine adverse events and discontinuation of Implanon in healthy Thai women between 16 and 45 years of age.*
Design: *Prospective descriptive study.*
Setting: *Family Planning Unit, Department of Obstetrics and Gynecology, Faculty of Medicine, Chiang Mai University.*
Subjects: *Ninety-two female volunteers with eligible criteria, no contraindication for hormonal contraceptive and wished to have long term contraception were recruited.*
Main outcome measures: *Determination of adverse events was done three months after Implanon insertion. Discontinuation of Implanon use was reviewed during the study period of one year.*
Results: *Amenorrhea (40.2%) and infrequent bleeding (39.1%) were the most menstrual adverse events. While most non- menstrual adverse events were headache/dizziness (27.2%) and lower abdominal pain (23.9%). Severe non-menstrual side effect was rare (1-2%). Seven subjects (7.6%) discontinued using Implanon during the one year period of study.*
Conclusion: *Implanon demonstrated a high continue rate at the first year of insertion. It produced similar adverse events like other progestin-only contraceptives. Counseling before insertion is important for increased client satisfaction and a higher continuation rate.*

Keywords: *Implanon, Hormonal contraceptive implant, Adverse event, Discontinuation*

J Med Assoc Thai 2005; 88(3): 314-7
Full text. e-Journal: *http://www.medassocthai.org/journal*

Implanon is a new progestogen only implantable contraception for women and was recently introduced in family planning service in Chiang Mai, Thailand. Implanon is a single rod-implant, sub-dermal administered which continuously releases etonogestrel into the blood steam. Contraceptive effects of Implanon are due to two mechanisms: inhibition of ovulation and increases the viscosity of cervical mucus to prevent sperm penetration[1].

A long-acting contraceptive implant such as Implanon has the advantage over oral contraceptive pills in terms of overcoming reduced contraceptive efficacy due to user failure (missed tablet) and of being independent compliance (no daily tablet intake). But like other progestogen contraceptives, Implanon is associated with bleeding disturbance and this could affect its acceptability. The study aims to determine the continuation of Implanon during the first year of use and evaluate its adverse events during the first three months after administration.

Correspondence to : Chaovisitsaree S, Department of Obstetrics and Gynecology, Faculty of Medicine Chiang Mai University, Chiang Mai 50200, Thailand.

Material and Method

The present prospective descriptive study was conducted at the Family Planning Unit, Department of Obstetrics and Gynecology, Faculty of Medicine, Chiang Mai University. The study was conducted from December 2001 to May 2003. Inclusion criteria were female volunteers between 16 and 45 years of age, sexually active, who wished to have long-term contraception. They were in good mental and physical health and there was no contraindication to use

contraceptive steroids. Post partum women (6 wks) and women with post abortion were included in the present study.

Implanon was inserted by responsible doctors at the Family Planning Unit. Subjects were scheduled to visit the clinic 3 months after insertion for evaluating adverse events or whenever a serious complaint occurred during the study. Amenorrhea was defined as absence of menstruation for 3 months. Periodic withdrawal bleeding within 28 $\pm$ 7 days was defined as regular menstrual cycle. Irregular cycle included frequent, infrequent, and prolonged bleeding. Frequent bleeding was defined as having more than five bleeding or spotting episodes within 3 months. Infrequent bleeding was defined as having less than three bleeding or spotting episodes within 3 months. Prolonged bleeding was defined as having one or more bleeding or spotting episodes within 3 months and lasting more than 14 days.

During the one-year of study, subjects were monitored on the continuation of Implanon use. Those who discontinued Implanon were interviewed about their reason by the study team. The descriptive results were presented as number and percentage. Mean age $\pm$ SD and range were describe age-characteristics.

Results

Ninety-two women were recruited in the present study and their characteristics are shown in Table 1. The subjects were aged from 16 to 45 years with a mean age of 29.3 years. Most (82.6%) were educated below university level. Parity 1 (40.2%) and parity 2 (38.0%) were common among the subjects. More than half of the total subjects (56.5%) were on other methods of contraception prior to the study and 37.0% were in the post partum period.

Table 2 shows the pattern of bleeding events during three months after insertion. Amenorrhea (40.2%) and irregular bleeding especially infrequent spotting (39.1%) were a common bleeding pattern among subjects. Whereas prolonged bleeding (2%) was rare. A small number of subjects had normal menstruation (8.7%) as well as a frequent bleeding event (9.8%).

Table 3 reports the non-menstrual adverse events during the first 3 months of using implant contraceptives. It was noted that the majority of non-menstrual adverse events were in mild intensity. Severe non-menstrual adverse events were very low (1.1-2.2%). Mild headache and dizziness (27.2%) were the most frequent complaints among Implanon users. Mild abdominal pain was the second most frequent adverse event (23.9%). Other adverse events with mild intensity such as mood change (17.4%), acne (16.3%), breast tenderness (16.3%), pain at the site of insertion (15.2) and decrease libido (7.6 5) were also reported.

In the present study, one-year period continuation was 92.4%. Only 7 subjects discontinued Implanon use. The discontinuation happened as early as 5 months or longer at 1 year after insertion and their reason for discontinuation is shown in Table 4. Three subjects discontinued Implanon because they planned to have a baby. The other 4 subjects discontinued because of medical reasons. Each of them experienced adverse events as follows: prolonged

Table 1. Characteristics data of Implanon subject (n = 92)

Characteristics	Number	Percent
Age		
< 20 years	10	10.9
21-30 Years	42	45.7
31-40 years	34	36.9
> 40 years	6	6.5
Mean age = 29.3 $\pm$ 6.9 years, range 16-45 years		
Education		
Primary school	33	35.8
Secondary school	24	26.1
Certificate	19	20.7
Bachelor degree	15	16.3
Master degree	1	1.1
Parity		
0	1	1.1
1	37	40.2
2	35	38.0
3	13	14.1
4	3	3.3
5	3	3.3
Status at baseline		
Post partum period	34	37.0
Post abortion	6	6.5
Change method from Norplant	13	14.1
On other method of contraception	39	42.4

Table 2. Pattern of bleeding events during the first three months of Implanon used

Bleeding pattern	3 months after insertion	
	Number	Percentage
Amenorrhea	37	40.2
Infrequent bleeding	36	39.1
Frequent bleeding	9	9.8
Prolonged bleeding	2	2.2
Normal menstruation	8	8.7
Total	92	100.0

Table 3. Non-menstrual adverse events during the first three months of Implanon use

Non-menstrual Adverse Events (AEs)	Intensity of AE during first 3 months after insertion			
	Mild		Severe	
	n	%+	n	%+
Headache/Dizziness	25	27.2	2	2.2
Abdominal pain	22	23.9	2	2.2
Acne	15	16.3	1	1.1
Breast tenderness	15	16.3	1	1.1
Pain at the site of insertion	14	15.2	1	1.1
Decreased libido	7	7.6	1	1.1
Mood change	16	17.4	2	2.2

+ Percentage of total 92 subjects

Table 4. Discontinuation of Implanon use during the first year of insertion and its reasons

Reason for discontinuation	No. of discontinuation	Percentage of discontinuation
Planned pregnancy	2	28.5
Prolonged bleeding	1	14.3
Severe mood change	1	14.3
Decreased libido	1	14.3
Acne	1	14.3
Divorce	1	14.3
Total	7	100.0

Continuation of Implanon use during the first year of insertion = 92.4%

bleeding, severe mood change, decreased libido, and acne.

Discussion

Since Impalnon is a progestogen only contraceptive, it was not surprising that menstrual adverse event was reported more often than normal menstruation[2]. Irregular bleeding (51.1%) especially infrequent bleeding (39.1%) was the most common bleeding disturbance during the first 3 months of Implanon use. Compared to another study in Thai women[3], it was found that 43.5% of the users experienced irregular bleeding during the first 3 months and this percentage decreased to 24.2% by 6 months. Amenorrhea rate of 40.2% during the first three months in the present study was higher than other Impalnon studies in Thai women: 22.6%[3] and less than 5.0%[4]. It is probable that 56.5% of subjects in the present study were on other methods of contraception prior to enrollment. The incidence of prolonged bleeding was only 2.2% and not the reason for discontinuation of Implanon use in the present study. Effective long-term management for bleeding disturbances is needed in order to increase acceptability. However, effective and acceptable treatments are unlikely to be developed without a full understanding of the factors underlying this bleeding[4].

Headache and dizziness (27.2%) was the most frequent complaint among non-menstrual adverse events in the present study. Similar results were also reported from other studies with the incidence of 10-30%[5]. It was interesting to note that no subjects complained about weight gain in the present study. While in most studies with any contraceptive method, weight gain was reported as a common complaint. It is likely that the time to evaluate this adverse event in the present study was too short because the assessment was done during the first three months after insertion. The other reported adverse events such as abdominal pain, acne, breast tenderness, pain at the site of insertion, decrease libido, and mood change were similar to most studies[3-5].

A high continuation of Implanon use (92.4%) during the first year after insertion was considered Implanon as a highly effective and acceptable contraception. Nearly half of all reasons for discontinuation in the present study were non-medical reasons (42.8%). Planned pregnancy and divorce were reported as the main reason for discontinuation. Continuation and adverse events of implanon do not differ from the other progestogen only contraceptive.

It indicated the significant implications for user counseling[6]. When considering any method, providers should be trained to ask clients about their reproductive plans and their preference to space or limit births or divorce tendency. Counseling training should be upgraded and routinely monitored and evaluated[7].

Acknowledgements

The authors wish to thank the Department of Health, Ministry of Public Health for provision of Impalnon. We wish to thank the staff of the Family Planning Unit, Faculty of Medicine, Chiang Mai University for their support. We thank Dr. Amphorn Ittiravivongs for the editorial contribution.

References

1. Croxatto HB, Makarainen L. The pharmacodynamics and efficacy of Impalnon. Contraception 1998; 58 (suppl): S91-7.

2. Affandi B. An integrated analysis of vaginal bleeding patterns in clinical trials of Impalnon. Contraception 1998(suppl); 58: S99-107.
3. Nilpetchploy S, Taneepanichskul S. Effects of a single rod etonogestrel used in healthy Thai women aged between 17 and 35 years in King Chulalongkorn Memorial Hospital. Thai Journal of Obstetrics and Gynecology 2002; 14: 291-5.
4. Kiriwat O, Patanayindee A, Koetsawang S, Korver T, Coelingh Bennink HJT. A 4-year pilot study on the efficacy and safety of Implanon®, a single-rod hormonal contraceptive implant, in healthy women in Thailand. European Journal of Contraception and Reproductive Health Care 1998; 3: 85-91.
5. Urbancsex J. An integrated analysis of non-menstrual adverse events with Impalnon. Contraception 1998; 58(suppl): S109-15.
6. Smith A, Reuter S. An assessment of the use of implanon in three community services. J Fam Plann Reprod Health Care 2002; 28: 193-6.
7. Cherry S. Implanon. The new alternative. Aust Fam Physician 2002; 31: 1063.

การศึกษาอาการไม่พึงประสงค์ของการใช้ยาฝังคุมกำเนิดอิมพลานอนและการเลิกคุมกำเนิดในระยะเวลา 1 ปี

สมศักดิ์ เชาว์วิศิษฐ์เสรี, วีรวิทย์ ปิยะมงคล, สายพิณ พงษธา, นันทนา มรกต, สุปราณี น้อยอ่ำ, นุชนาต สุนทรลิ้มศิริ

วัตถุประสงค์*: เพื่อศึกษาอาการไม่พึงประสงค์ของการใช้ยาฝังคุมกำเนิดและการเลิกคุมกำเนิดชนิดอิมพลานอนในสตรีไทยที่มีสุขภาพสมบูรณ์ อายุระหว่าง 16-45 ปี*

วิธีการวิจัย*: การศึกษาแบบพรรณาโดยเก็บข้อมูลไปข้างหน้า (descriptive prospective study)*

สถานที่ศึกษา*: หน่วยวางแผนครอบครัว ภาควิชาสูติศาสตร์และนรีเวชวิทยา คณะแพทยศาสตร์ มหาวิทยาลัยเชียงใหม่*

ประชากรที่ศึกษา*: สตรีที่สมัครใจเลือกการคุมกำเนิดโดยวิธีใช้ยาฝังคุมกำเนิด ซึ่งไม่มีข้อห้ามของการใช้ยาฝังคุมกำเนิดและต้องการคุมกำเนิดแบบระยะยาว จำนวน 92 ราย*

การวัดผลการศึกษา*: ศึกษาอาการไม่พึงประสงค์ของการใช้ยาฝังคุมกำเนิดชนิดอิมพลานอนในระยะ 3 เดือน และเหตุผลในการถอดยาฝังออกก่อนกำหนดในระยะ 1 ปี หลังฝังยา*

ผลการศึกษา*: อาการไม่พึงประสงค์ของการใช้ยาฝังคุมกำเนิดที่พบมากที่สุด คือ ไม่มีประจำเดือนมาเลย คิดเป็นร้อยละ 40.2 มีเลือดออกไม่สม่ำเสมอ ร้อยละ 39.1 ตามลำดับ ส่วนอาการอื่น ๆ ที่พบได้ ได้แก่ ปวดศีรษะ/มึนศีรษะ ร้อยละ27.2, ปวดท้องน้อย ร้อยละ 23.9, อาการข้างเคียงอื่น ๆ ที่รุนแรงพบได้น้อย ร้อยละ1-2, มี 7 ราย ร้อยละ 7.6 ที่ถอดยาฝังอิมพลานอนออกก่อนภายในปีแรก*

สรุป*: ยาฝังคุมกำเนิดอิมพลานอนมีอัตราการคงใช้สูงใน 1 ปีแรก ซึ่งอาการข้างเคียงที่พบจะเช่นเดียวกับการใช้ยาฝังคุมกำเนิดชนิดโปรเจสตินเดี่ยว การให้คำปรึกษาก่อนการฝังยาคุมมีความสำคัญเพื่อให้ผู้รับบริการมีความพอใจและมีอัตราการคงใช้ต่อเนื่องสูงขึ้น*