Medical Complications From Induced Abortion by the Super Coil Method

BECAUSE THEY WERE UNABLE to get abortions in their home States, 15 women in the second trimester of pregnancy underwent induced abortions in Philadelphia on May 13 and 14, 1972. The method used was the "super coil," which was purportedly safe and suited for second trimester pregnancies (*1*). Following the procedures, one woman was hospitalized in Philadelphia while the rest returned to their home States. In order to evaluate this new abortion method, the Center for Disease Control performed a followup investigation in cooperation with public health officials and clinicians in Philadelphia and in the areas to which the women had returned. This investigation was undertaken with the realization that the sample was small, but because of the unavailability of followup information on the super coil method, it was felt that even this small number of women would provide useful information.

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Background

The super coil is a plastic strip 40 cm long and 4.6 mm wide, wound into a spiral 2 cm in diameter. The person performing an abortion straightens the coil and puts it in an inserter, through which it is introduced via the cervical os into the uterus in a fashion similar to an intrauterine contraceptive device. The method calls for insertion of several coils. In addition, balsa tents may be placed in the cervical canal. The coils are removed 12–24 hours after insertion, at which time total evacuation of the uterus is said to usually occur. If the uterine contents are not expelled spontaneously, they must be removed with ovum forceps. After delivery of the products of conception, the uterus may be checked for completeness of the procedure with a suction curette (*1*).

The super coil abortions were performed in a private clinic in which induced abortions are performed primarily by suction curettage during the first trimester. The clinic was staffed by a physician with 2 years of training in obstetrics and

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gynecology, who had previously worked in an outpatient abortion clinic in New York City, and a physician from Los Angeles. In addition to the two clinic physicians, the psychologist who originated the super coil method was present for the coil insertions. Neither of the two physicians had had previous experience with this abortion method.

Investigation

Of the 15 women who underwent super coil abortions, 13 received followup medical evaluation within 1 week of the coil insertions. Since the other two women did not avail themselves of the opportunity for followup evaluation, we assumed that they had no complications. Postabortal evaluation consisted of a medical history and physical examination, including pelvic examination, hematocrit, Rh type, Papanicolaou smear, culture for presence of gonorrhea, and upper abdominal film to rule out the presence of a foreign body or evidence of uterine perforation. Morbidity was defined as temperature of 100.4°F or higher, estimated blood loss of 500 cc or more, or other conditions which required subsequent medical attention. In addition, a category of major complications was defined to include patients with unintended major surgery, blood loss estimated at 1,000 cc or more, one or more blood transfusions, 3 or more days of fever, and several other categories associated with roughly comparable degrees of illness.

Of the 13 women for whom complete followup data were available, 9 (60 percent) had complications; 3 (20 percent) of the 9 sustained major complications, and 2 of these required major surgery. The complications experienced by the 9 women were as follows.

Complications	*Number of women*
Uterine perforation	1
Peritonitis	1
Anemia, postabortal	4
Fever (>100.4° F)	7
Retained products of conception	2
Drug reaction	1
Pain (requiring postoperative visit to physician)	1

One woman had profuse vaginal bleeding at the time of coil removal. She was hospitalized in Philadelphia, given 8 units of blood, and underwent a laparotomy. This operation revealed hematomas inferior to the bladder and in the broad ligament ascending to the bifurcation of the iliac vessels. A total abdominal hysterectomy was then performed. Examination for pathological conditions showed a laceration 6 mm long extending from the external os on the right side of the cervix into the lower uterine segment and a 1 cm perforation on the upper left lateral side of the cervix near the internal os. The patient improved and was discharged on the 10th postoperative day.

The second patient, hospitalized the day following her return home from Philadelphia, was treated for 10 days for suspected acute pelvic inflammatory disease. One week after discharge, she was readmitted with severe abdominal pain, and a laparotomy was performed because of a preoperative diagnosis of acute appendicitis. At surgery, pelvic adhesions were noted, as was a normal-appearing appendix. The postoperative diagnosis was endometritis with intrapelvic adhesions. Following a second 10-day course of antibiotic therapy in the hospital, the patient was discharged 1 month after her induced abortion.

The third patient had heavy vaginal bleeding following coil insertions. After leaving Philadelphia she complained of syncope and fatigue. A physical examination 3 days after the abortion revealed that she was anemic; her preoperative hematocrit of 36 ml per 100 ml had dropped to 24.5. She was treated with parenteral and oral iron, and when next seen by her local physician 4 months later, her hematocrit was 41.5.

The criteria for complications in this investigation were those defined in the Joint Program for the Study of Abortion (JPSA). The JPSA study, which provided the most comprehensive evaluation available of early medical complications of legal abortion, was initiated in July 1970 (*2*). The following are the complication rates for the Philadelphia patients who underwent abortion by the super coil method and for the JPSA patients who had saline-amniotic fluid exchange abortions (both rates are for complications after more than 1 week following the abortion procedure).

		Complication rate per 100	
Method	*Number*	*Major*	*Total*
Super coil	15	20.0	60.0
Saline-amniotic fluid exchange	5,973	2.6	27.9

The complication rates, both major and total, were significantly greater for the patients who underwent super coil abortions. (As determined by the Poisson distribution, the difference between the observed number of patients with complications associated with super coil abortions and those expected on the basis of the JPSA complication rates, both major and total, was significant at a level of P .05.)

Discussion and Conclusion

At the time of our investigation, the only written reports on the super coil method were a paragraph summary in Contraception of a verbal description of the method presented at a workshop on abortion methods in 1971 (*3*); an article in Medical World News (*4*); an article in an underground newspaper, the Los Angeles Free Press (*5*); and an unpublished report of 32 abortions performed by the super coil method, "Second Trimester Terminations Utilizing a Specially Designed Intrauterine Device: A Promising Alternative to Amniocentesis," by L. D. Newman of the San Vicente Hospital, Los Angeles. Subsequent to our investigation, Karman (*1*) described the outcome of 56 super coil abortions performed by paramedical personnel. The reports of both Newman and Karman stated that there were no significant complications associated with the super coil method and that the method can be performed by paramedical personnel.

The results of the present investigation conflict with the previous reports. Although the small number of women in this series does not permit a definitive judgment of the risks associated with the super coil method, the results do indicate that the method is not without significant risk. Any further testing of this abortion technique should only be done according to a detailed research protocol under careful scientific and medical supervision, in a hospital with adequate personnel and facilities to diagnose and treat complications, and with consent of the patient who is informed that at present this is an experimental procedure.

ADDENDUM

Subsequent to this investigation, a more detailed report was published: "Termination of Pregnancy by "Super Coils": Morbidity Associated With a New Method of Second-Trimester Abortion," by G. S. Berger and associates, in the American Journal of Obstetrics and Gynecology, vol. 116, June 1, 1973, pp. 297–304.

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(*3*) Johnson, D. S.: Termination of pregnancy: Current status and future directions. Contraception 5: 237–249, March 1972.

(*4*) Two minute abortion is here—are we ready? Med World News 13: 15–17, May 12, 1972.

(*5*) Koblin, H.: Dr. Karman, abortionist: Vaginal politics. Los Angeles Free Press, pt. 1, June 9, 1971, p. 3.