

The Influence of Oral Contraceptives and Intrauterine Device on The Decline Rate Of Human Chorionic Gonadotropin After Induced Abortion In The First Trimester

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BİRİNCİ TRİMESTER UYARILMIŞ DÜŞÜKLERİNDEN SONRA İNSAN KORYONİK GONADOTROPİN DÜŞME HIZI ÜZERİNDE ORAL KONTRASEPTİFLERİN VE İNTRAUTERİN ARAÇLARIN ETKİSİ

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SUMMARY

A study was undertaken to determine if the decline rate of beta subunit of human chorionic gonadotropin (HCG) was affected by contraceptive methods used after, first trimester elective termination of pregnancy by suction curretage. 47 women were divided into three groups, where first group recieved no contraception, the secondlanan was applied an intrauterine device (Lippes loop), and the third group were were prescribed beta-hCG steroid pills. No significant differences were found in regard to the mean HCG titers determined in the postevacuation weeks and the HCG decline rate ($p > 0.05$).

KeyWords: Human chorionic gonadotropin, decline rate, contraception induced abortion.

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Determination of the beta subunit of human chorionic gonadotropin (HCG) molecule by Radioimmune assay (RIA) has been used as a sensitive test to detect trophoblastic activity. Several factors will influence the length of time that elapses between the removal of trophoblastic tissue and the disappearance of HCG from blood. These are the concentration of HCG in the body fluids at the time of uterine evacuation, the clearance rate of HCG in the individual, the sensitivity of the test method and the completeness of the inital tissue removal (1).

The purpose of this study was to determine if contraceptive usage in the form of intrauterine device or steroid pills affected the rate of disappearance of HCG from the blood after first

OZET

Birinci trimester elektif gebelik terminasyon- lanndan sonra kullanılacak kontraseptif yöntemin beta-hCG seviyelerindeki düşüşe et- kisini araştırmak için 47 olgudan oluşan 47 araştırma grubu kontrasepsiyon kullanmayan, intrauterin araç kullanan ve oral kontraseptif kul- lanılan olarak üç gruba ayrıldı. Bu üç grup arasında terminasyonu takip eden haftalarda beta-hCG düşmesi yönünden anlamlı fark tespit edilemedi ($p > 0.05$).

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trimester elective termination of pregnancy by suction curretage.

MATERIAL AND METHODS

The study consisted of 47 women who applied to our family planning clinic for legal termination of pregnancy in the first trimester. The gestational age of each woman was calculated from the first day of the last menstrual period. A serum sample was drawn for a beseline HCG level before evacuation. All of the pregnancies were terminated by suction curretage using a Karman canula. Weekly HCG determinations were performed for 4 weeks postevacuation on all women. HCG levels were determined using an Amerlcx-M beta HCG-RIA kit.

The first group consisted of 11 women with a mean amenorrhea of 6.27 ± 1.19 weeks and a range of 5-8 weeks. Contraceptives in any form were not applied to this group following evacuation. The second group consisted of 23 women with a mean amenorrhea of 6.43 ± 0.95 weeks and a range of 5-8 weeks. A lippes loop was inserted in the uterine cavity after evacuation. The third group consisted of 13 women with a mean amenorrhea of 6.69 ± 1.49 weeks and a range of 5-10 weeks. These women were started on an oral contraceptive containing 0.03 mg. ethynl estradiol and 0.15 mg. levonorgestrel (Microgynon®).

The three groups were compared with each other in regard to baseline HCG levels, the mean postevacuation titers at 1,2,3 and 4 weeks, hence disappearance of HCG from blood. The results were analysed paired analysis and students t-test.

RESULTS

The baseline HCG levels before evacuation were 43555 ± 2420 , 48232 ± 4100 and 49113 ± 3680 in the three groups respectively. These values did not differ significantly from each other ($p > 0.05$).

The disappearance of HCG from blood was plotted on a semilogarithmic curve and is shown in Figure 1. The mean HCG values in regard to postevacuation weeks and the HCG decline rate did not differ significantly in the three groups ($p > 0.05$).

DISCUSSION

Studies on the elimination of HCG have generated interest after the study of Stone and Bagshawe stating that the usage of oral contraceptives after evacuation of hydatidiform mole, increased the risk for subsequent invasive mole or choriocarcinoma and affected the postmolar HCG regression curve (2). Studies conducted later failed to show the same relationship (3,4). In a recent report, Morrow et al. showed that the frequency of abnormal regression of the serum beta subunit of

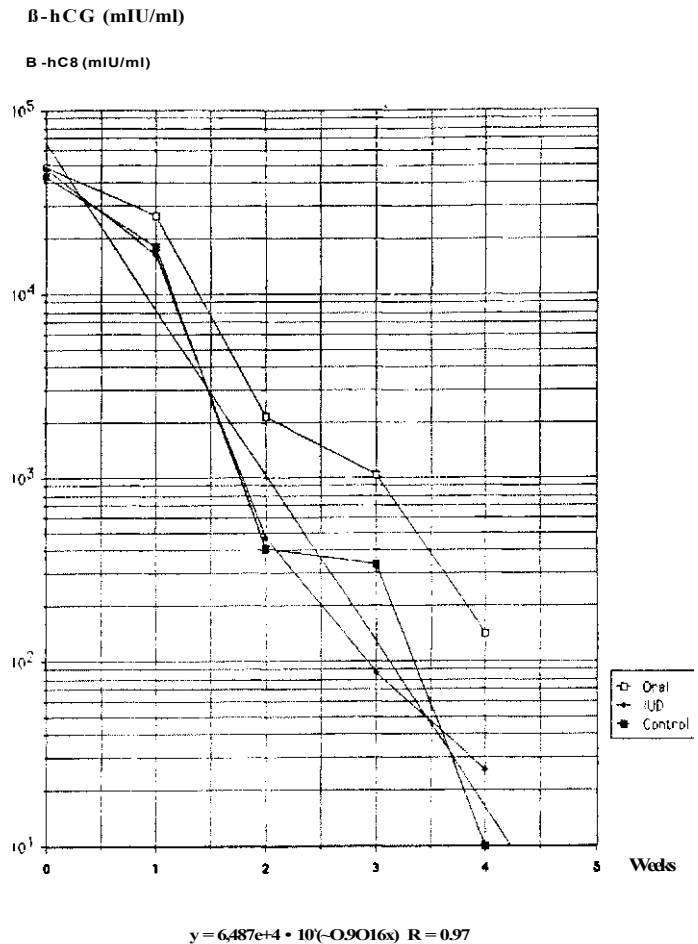


Figure 1

HCG did not differ in the two groups, where one received hormonal contraception and the other did not (4).

Our study showed that the HCG decline rate was not influenced by contraceptive methods used after evacuation. As seen in figure 1, different curve fits were applied to our data (simple, polynomial, semilogarithmic and regression) and the best fit was obtained on a regression curve ($R = 0.97$).

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