CONTRACEPTIVE PRACTICE IN DIABETIC WOMEN IN ALGERIA: RESULTS OF A SURVEY PERFORMED IN A SAMPLE OF 103 PATIENTS

A. BENOTMANE, K. FARAOUM

Recommendations regarding contraception use for diabetic women exist [1]. Intrauterine devices (IUD) and local contraceptive methods do not raise any specific problem of tolerance or efficiency for a diabetic woman, and can thus be proposed without any reticence. On the other hand, oestroprogestatives or combined oral contraceptives (COCs) considered as potentially harmful, raise a number of restrictions, especially in type 2 diabetes. In type 1 diabetes without complication and with a good metabolic control, in case of a local method (condom) refusal, there is a preference for low dose progestin-only pills (LPOPs) at first, if not to low dose combined oral contraceptives. The effects of COCs in women with type 1 diabetes had been the subject of little work [2-4]. Opinions on their use in these patients are conflicting. Nevertheless, the conclusions of these works cannot be extrapolated to the woman with type 2 diabetes. The latter is generally older and accumulates more cardiovascular risk factors than the type 1 diabetic patient. The practical consequences are to avoid all factors susceptible of increasing the cardiovascular risk in the type 2 diabetic woman. The LPOPs destined to type 1 diabetic patients can be responsible for dysovulation with gynaecological consequences (breast tenderness, spottings). These disadvantages, added to the constraint of a continual dose at a fixed time, explain frequent abandonments. They are not advised from 35 years old on. The aim of this work was to evaluate the gap which existed between the recommendations related to contraceptive use, actually the subject of a large consensus, and contraceptive habits in a sample of diabetic women, living in Oran (Algeria).

PATIENTS AND METHODS

This was a prospective work. From September 1996 to August 1998, i.e., a period lasting 24 months, we interviewed 103 diabetic women aged between 18 and 55. Interviews of patients were done at consultation or among patients admitted to hospital because of a poor metabolic control. A standard questionnaire was elaborated and used as a basis for questioning patients. All diabetic patients with normal periods, spontaneously or under oral contraceptives, had been questioned. In addition to married women, we included single or divorced women who had a male partner. The interview consisted of gathering patient’s characteristics (age, age when diabetes was first diagnosed, obstetrical history and fertility), the type of diabetes mellitus and the eventual existence of degenerative complications, and at last the contraceptive means used by the patients before and after the discovery or the onset of diabetes mellitus. We had used the following criteria to judge about the adequacy of contraceptive prescription: the type of diabetes mellitus, the patient’s age, the existence of degenerative complications. To decide about the “normality” or “abnormality” of our sample (as far as fertility and contraception are considered), we had referred to data collected by EASME (Enquête algérienne sur la santé de la Mère et de l’Enfant) in 1992 [5]. This national survey, performed throughout Algeria, involved 5 024 women, aged between 15 and 49 years, among which 2 394 used a contraceptive method.

The tests used for comparison are as follows [6]: t test for quantitative variables; analysis of variance for the comparison of means (ANOVA); Chi-squared ($X^2$) test for qualitative variables.

RESULTS

Type 1 diabetes represented 20.39% (n = 21), and type 2 diabetes 79.61% of the cases (n = 82). The average number of pregnancies was $5.88 \pm 2.92$ per woman; the number of interrupted pregnancies was $1.06 \pm 1.30$. Compared to the general population, the average number of children of the whole group of patients was similar: $4.31 \pm 1.99$ versus $4.4$ (No significant: NS). Twenty one patients (20.39%) used no contraceptive method (group I); 59 patients (57.28%) used a contraceptive method (group II); hormonal compounds (HC) in 45 cases (43.69%), IUD in 7 cases (6.80%), other methods in 7 cases (6.80%); 23 patients (22.33%) were sterilized (group III). The 45
HC cases took LPOPs in 17 cases (16.50%) and COCs (containing 30, 40 or 50 µg of ethinyl estradiol per pill) in 28 cases (27.18%). All the sterilized women had 4 alive children or more. As compared to group III women, women without contraception had less children (t = 3.69, p < 0.001). As compared to group III women, women under contraception (group II), had less children (t = 3.84 p < 0.001), too.

Contraception was appropriate in 47 patients (45.63%). Among the 56 patients with inappropriate contraception (54.36%), 24 patients (23.30%) without any contraception (n = 21) or with use of an unreliable contraceptive method (n = 3) had a risk of unintended (or unprepared) pregnancy. Twelve patients (11.65%) under COCs had an increased vascular risk because they presented one or more complications of macroangiopathy. Twenty patients (19.41%) under LPOPs, 38 years old or more, were considered as having inadequate contraception linked to a risk of dysovulation.

**Discussion**

The discovery or the occurrence of diabetes mellitus had led some women to change their contraceptive practices; but their practices were not always those expected. In the end, the proportion of women who used no contraception did not decrease (22.33% before the diagnosis of diabetes; 20.39% after; NS). The variety of contraceptive methods increased. However, the pill kept the first place, whatever the age and the level of education.

The most important result was the rate of sterilization which raised after the discovery of diabetes and reached near ten-fold the level (2.50%) of tubal ligation seen in the contraception among the general population, whereas the proportion of women who chose the IUD equalled the proportion of women who used it among the general population [5]. Did diabetic women favour sterilization? Was there a medical reason to justify it? These questions need to be answered. The utilisation rate of UDI was low because the IUD is rejected by the Algerian women in general, in all circumstances [7].

We considered the risk to be lessened in situations where the patients (n = 47; 45.63%) used an adequate contraception and in the sterilized women. The patients using no contraception (n = 21; 20.39%) or those practising awareness based methods (n = 3; 2.91%) had a risk of unintended (or unprepared) pregnancy, with known consequences in diabetic women. Some patients under COCs (n = 12; 11.65%) had an increase of vascular risk because of their age and the presence of degenerative complications. All of them presented at least one degenerative complication, particularly an HTA. All patients under LPOPs (n = 20; 19.41%) were more than 38 years old. Because of their age, they had an increased risk of dysovulation, with possible side effects (breast tenderness, spotting) and risk of discontinuation of the pill [8].

What differentiated particularly the sterilized women and the women belonging to the two other groups, was the number of alive children in our study. It is thus possible that the number of alive children (or children desired) determined the number of total pregnancies, and the type of contraception used. The number of alive children is considered as one of the major determinants in developing countries [7, 9]. This number could explain why, in spite of diabetes mellitus, 21 patients were not using any contraception.

**Conclusion**

This study showed that the discovery or the occurrence of diabetes mellitus could lead a certain number of women to get a contraception or to choose another contraceptive method, but the choice was not always appropriate. The sterilization rate was important as compared to the general population. Whether this procedure was not abusive remains to be determined. Main determinant to contraception continuation and type seems to be the size of the family, which is determined by the number of alive children. The status of diabetes, complicated or not, seems to be less important. Nevertheless, the absence of contraception, even if the patient wished a pregnancy (consciously or not), could mean either a lack of information to the diabetic patient regarding the risk of an unintended pregnancy, or the inability of the doctor to give correct advice to his/her female diabetic patients.

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