BEHCET'S DISEASE AND PREGNANCY

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Abstract- Behçet's disease (BD) is a multisystem disorder with potential ability to influence the pregnancy outcome and pregnancy is associated with several physiologic alterations which can lead to potential changes in the course of the disease. We studied 77 pregnancies in 69 women with BD. The disease activity was calculated by two methods for three periods of before, during and after pregnancy to evaluate changes induced by pregnancy. The pregnancy outcome and the newborns' status were also evaluated. In 31 pregnancies (40.3%) no change was observed in the disease activity during pregnancy. The disease activity improved in 21 (27.3%) and aggravated in 25 (32.4%) pregnancies. After the delivery, the disease activity did not change in 31 patients (40.3%). It improved in 23 (29.85%) and aggravated in 23 patients (29.85%). We had full term delivery in 62 pregnancies (80.5%) and a failure in 15 cases (19.5%). Our results show that the effect of pregnancy on BD was not the same in all patients. The delivery had variable effects on the disease activity, with changes in 59.7% of cases. Comparison of the disease manifestations between patients with and without abortion showed no significant difference except for the peripheral joint and eye involvement which were significantly higher in patients with abortion. No neonatal BD was seen in our cases. The 19.5% failure rate of pregnancy must be a major concern when deciding for a new pregnancy in a patient with BD. It would be even more important in patients with eye and joint involvement.

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INTRODUCTION

Behçet's disease (BD) is a multisystem disorder of vasculitis type. Nearly half of the patients (47%) are female (1). Disease onset is mainly in the third decade of life with a mean age of 26.2 years (2), which means most patients are in reproductive period of their lives.

Pregnancy is an important concern during the childbearing period. Like other autoimmune diseases, BD has a potential ability to influence the pregnancy outcome (3, 4). On the other hand pregnancy is associated with several physiologic alterations in the hormonal state of the body that may play an important role in the pathogenesis of BD (5). This can lead to potential changes in the course of the disease during pregnancy.

There are few reports describing the inter-relationship between pregnancy and BD (6-17). There are controversial reports in the literature related to flares (6-9, 13-16) and remissions (7-16) during pregnancy in women with BD. The flares involve primarily mucocutaneous manifestations. Reports concerning exacerbation of the more serious manifestations of BD including ocular and CNS involvement are lacking (6-8, 15). No significant effect of BD on fetal development or fetal survival has been found (7-9, 16, 17). There are some reports on neonatal Behçet's disease in mothers with BD (18).

The aim of this study was to evaluate the effect of pregnancy on Behçet's disease, and the outcome of pregnancy in a large cohort of patients with long follow-up.

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MATERIALS AND METHODS

We studied 77 pregnancies in 69 women with BD. They were selected from among 4130 patients (1913 women) registered at Behçet's Clinic, from 1975 to April 2002. They all fulfilled both the Iran (19, 20) and the Japan (21) criteria for BD.

The disease activity was calculated to evaluate the changes of the disease induced by pregnancy. The disease activity was calculated by two methods for three periods of the disease: six months before the pregnancy, during the pregnancy and six months after the delivery. The two methods for the calculation of the disease activity were: 1) The Physician Global Assessment (PGA), by a physician well experienced in BD and 2) The Iran Behçet's Disease Dynamic Activity Measure (IBDDAM) (22).

The pregnancy outcome (full term, abortion, premature labor or stillbirth), and the newborns' status were also evaluated. Abortion, prematurity and stillbirth were considered failed pregnancy. The results were compared by Chi square test.

RESULTS

We analyzed 77 pregnancies in 69 patients (8 patients had each 2 pregnancies). The mean age of the patients at the time of pregnancy was 22.6 years with a standard deviation (SD) of 5.1. The mean disease duration was 5.3 years (SD = 3.7). The disease characteristics in them included oral aphthosis in 100%, genital aphthosis in 88.3%, folliculitis in 67.5%, erythema nodosa in 31.2%, ocular lesions in 45.5% (anterior uveitis in 30%, posterior uveitis in 40.3%, retinal vasculitis in 13%), peripheral joint involvement in 19.5%, positive pathergy test in 65%, positive HLA-B5 in 55.8%, elevated ESR in 36.4% and positive VDRL in 2.6%.

In 31 pregnancies (40.3%) no change was observed in the disease activity during pregnancy. The disease activity was improved in 21 (27.3%) and aggravated in 25 pregnancies (32.4%). Both the PGA and the IBDDAM showed identical results except in 3 patients (3.9%).

After the delivery the disease activity did not change in 31 patients (40.3%). It improved in 23 (29.85%) and aggravated in 23 patients (29.85%). The results were again identical by both methods, the PGA and IBDDAM. It was different only in two patients (2.6%).

We had full term delivery in 62 pregnancies (80.5%). In the other 15 cases the pregnancy failed. Abortion was seen in 13 cases, 9 (11.7%) in the first trimester and 4 (5.2%) in the second trimester. We had one case of premature labor and one stillbirth.

Comparison of the disease manifestations between patients with abortion and those with successful pregnancy showed no significant difference except for the peripheral joint involvement and the eye involvement. In eye involvement, the difference was seen notably for the anterior and posterior uveitis (Table 1). The mean age of the patients with failed pregnancy was slightly higher (23 year, SD of 5.6), and the mean disease duration in them was longer (6.6 year, SD of 4.7). The differences were not statistically significant. Among 15 patient with failed pregnancy, 11 (77.3%) had ocular involvement, 1 had superior vena cava syndrome, 1 had deep vein thrombosis and the other one had a false positive VDRL test with no major organ involvement. There was also no significant difference in paraclinical tests between the two groups (Table 1).

The increase in ESR was more common in patients without abortion, but the difference was not statistically significant (P = 0.2). Of 8 patients who had two pregnancies during their disease, only 4 had successful full term delivery in both pregnancies. The other 4 patients had one abortion and one full term pregnancy. No fetal abnormality was seen and the newborns were healthy except one who died from neonatal sepsis. We did not find any signs of BD in newborns.

DISCUSSION

BD as a multisystem autoimmune disease and pregnancy as a physiologic hormonal changes have potential ability to influence each other. Different and variable inter-influence of pregnancy and BD has been reported (6-17). Our previous report on 59 pregnancies in 54 Iranian women with BD (13) showed approximately the same result as this study.

Table 1. Comparison of the disease characteristics in normal and failed pregnancies*

Characteristic	Normal pregnancy (n=62)	Failed pregnancy (n=15)	*P* Value
Oral aphthosis	62 (100)	15 (100)	1 (NS)
Genital aphthosis	56 (90.3)	12 (80)	0.5 (NS)
Folliculitis	41 (66.1)	11 (73.3)	0.4 (NS)
Erythema nodosa	21 (33.8)	3 (20)	0.5 (NS)
Ocular lesions	23 (37)	11 (73.3)	<0.02
Anterior uveitis	14 (22.5)	8 (53.3)	<0.005
Posterior uveitis	21 (33.8)	9 (60)	<0.03
Retinal vasculitis	7 (11.2)	3 (20)	0.21 (NS)
Peripheral joint involvement	9 (14.5)	6 (40)	< 0.009
Positive pathergy test	39 (62.9)	11 (73.3)	0.3 (NS)
Positive HLA-B5	34 (55)	9 (60)	0.5 (NS)
Positive VDRL test	1 (1.6)	1 (6.6)	0.06 (NS)
Increase in ESR	25 (40.3)	3 (20)	0.1 (NS)

Abbreviation: NS, not significant.
* Data are given as number (percent).

The differences were not statistically significant.

We used IBDDAM and PGA for the calculation of the disease activity. IBDDAM can be a reliable method to evaluate the course of the disease during pregnancy and after the delivery, especially for those not well experienced in BD. It could be as reliable as the PGA performed by a well-experienced physician. The sensitivity of IBDDAM was 96.1%.

Our recent results show that the effect of pregnancy on BD was not the same in all patients. The pregnancy had no effect on the disease activity in 40.3% of the cases. In agreement with previous reports, we did not find any new major organ involvement in those with flare of the disease during pregnancy (6-8, 15). This report seems to be the second one (the first one (13) also done by the same authors) to evaluate the effect of delivery on the course of BD. The delivery had variable effects on the disease activity, with no changes in 40.3% of cases.

Previous reports showed no significant effect of the disease on fetal development or survival (premature labor or stillbirth) (7-9, 16, 17). Unexpectedly, pregnancy outcome in BD was not very good in our series of patients. The outcome was not related to any characteristics of the disease except to the ocular and joint involvement. It was related neither to HLA-B5 nor to the false positive VDRL. The outcome varied during different pregnancies in the same patient. No neonatal BD was seen in our cases, the same as other reports (7, 8). One of our newborns died from neonatal sepsis; however it could not be a conclusive finding. The 19.5% failure rate of pregnancy must be a major concern when deciding for a new pregnancy in a patient with BD. It would be even more important in patients with eye and joint involvement.

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