Hemocoagulative pathology and immunological recurrent abortion

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Summary

To assess the relation between immunological disorders and recurrent abortion, 15 pregnant women with previous unexplained recurrent abortivity were submitted to serum screening for antiphospholyeid antibodies syndrome (APA) syndrome.

The screening included specific tests for autoimmune diseases (ANA, specific organ antibodies, immune complexes research, etc.), the immunoenzymatic assay (ELISA) for the research of anticardiolipin antibodies (ACA) and the determination of the kaolin coagulation time (KCT) through Exener method for lupus anticoagulant (LAC).

Nine gravids out of 15 were positive both to LAC and ACA antibodies, two gravids were positive to only ACA antibodies, while four had no antibody reaction.

Therefore, whatever the effective mechanism is, it seems ascertained that several cases of unexplained recurrent abortion are related to APA syndrome.

Nowadays the above-mentioned syndrome is successfully treated using corticosteroid immunosuppressors and platelet antiaggregators which reduce autoimmune reaction and thrombotic episodes.

Key words: Recurrent abortion; Hemocoagulative pathology; APA syndrome.

Introduction

The recurrent abortion syndrome recognizes among its possible causes immunological disorders capable of interfering negatively not only in the process of conception and of implantation of the ovule but also in the mechanisms governing the maintenance of pregnancy [1].

Among such disorders of particular importance seems to be the so-called APA syndrome or antiphospholipid antibodies syndrome. It is characterized by a pathological immunomediated condition (present in the serum of antiphospholipid antibodies, anticardiolipin antibodies and/or lupus anticoagulant) that reveals itself through hemocoagulative disturbances of the thrombotic kind and/or thrombocytopenia often associated, with early, sometimes late, recurrent abortions [2, 3] and other obstetric pathologies such as IUGR, preeclamptic gestosis, gravidic chorea, deep venous thrombosis, placental detachment [4].

The serum picture, however, is not always present in these clinical pictures with unknown etiology, but the hypothesis of the immunopathogenesis of such diseases is bona fide.

In early abortions vascular immunomediated alterations interfering with the pregnancy such hemocoagulative alterations, typical of the syndrome, emerge in concomitance with multiple infarcts and placental calcifications incompatible with a further evolution of pregnancy [9], thus causing a late abortion or IUGR with fetal loss.

As nowadays it is possible to successfully treat the above-mentioned syndrome using corticosteroid immunosuppressors to reduce the autoimmune reaction and platelet antiaggregators to modify or prevent thrombotic episodes [5, 6], the early identification of the carriers appears to be of fundamental importance in order to reduce gravidic failures.

In the present study our preliminary experience on the screening of APA carriers is reported. The results of the ongoing treatment will be reported successively.

Materials and Methods

At the Department of Obstetrics and Gynaecology of the 2nd University of Naples, in the period between January 1993 and July 1995, 15 gravids between the 6th and 8th week of gestation suspected of having APA were tested.

They had reported recurrent abortions (at least 3 consecutive spontaneous abortions and/or endouterine fetal deaths) with or without positive anamnesis for thrombotic episodes in previous pregnancies.

In each of them it was possible to exclude, through specific investigations, genetic, endocrine, dismetabolic, deformative and infectious causes responsible for the previous abortions.

All the tested patients, whose average age was 28, have been submitted to specific tests for autoimmune diseases (ANA, specific organ antibodies, immune complexes research, etc.). In particular they underwent the immunoenzymatic assay (ELISA) to look for anticardiolipin antibodies (ACA) and to determine the kaolin coagulation time (KCT) through the Exener method [7] for the determination of lupus anticoagulant (LAC).

Results and Comments

The results are reported in table 1 in which it can be seen that nine gravids out of 15 turned out to be positive both to LAC and ACA antibodies, only two had ACA

antibodies, while no antibody reaction was found in 4 of them. Though aware that the serum manifestations of the syndrome may appear in further pregnancies, we have no objective elements to diagnose these four patients with the APA syndrome. Therefore, we believe that the anamnestic data alone are not sufficient to plan an anti-APA therapy, since other factors, unknown for the moment, may share in the genesis of the abortions.

The positive ascertainment for APA has therefore been restricted to 11 patients out of 15 equal to 73.3% of the hazardous cases that have been tested, permitting us to include in this group both the nine bipositive cases and the positivities to ACA alone (Tab .1).

APA has, therefore, a high incidence in the occurrence of recurrent abortions.

Table 1. — *Results of the screening for the APA syndrome in the tested patients*

	N. patients	%
Patients LAC and ACA positive	9	60
Patients ACA positive	2	13.3
Patients LAC and ACA negative	4	26.7
Total	15	100.0

Although several Authors [5, 6, 9] have been interested in the problem, still today the real pathogenesis of the syndrome and the effective mechanisms connecting the immunological disorder with hemocoagulative alterations and with abortion are not clear.

On this subject various hypotheses have been formulated: platelet activation with increased adhesivity and release of thromboxane with vasoconstrictive action [10]; inhibition of LAC in the production of prostacyclin with vasodilatator action [11]; interference from the abovementioned antibodies in normal anticoagulant proteins (antithrombin III and Protein C) [10].

Whatever the effective mechanism is, it seems, however, ascertained that the thrombotic phenomena of the APA syndrome are somehow related to platelet activation which would justify the platelet antiaggregant treatment [8, 9].

Given the multiplicity and complexity of the problems not yet solved, only pregnant women with positive serology were submitted to the treatment with corticosteroid immunosuppressors and platelet antiaggregators.

Based on the results we shall continue our investigations and report on them when completed.

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