Bad Obstetric History and Fetal loss Due to Thrombophilia

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Introduction:

- In their lifetimes, women are likely to face situations associated with an increased risk of venous thromboembolism (VTE), be it through hormonal therapy or pregnancy.

- Several pregnancy complications, including recurrent miscarriage, intrauterine fetal growth retardation, intrauterine death and possibly abortion and eclampsia, are reported to be more common in women with thrombophillic defects.

- Women with thrombophillia have a 2-3 fold increased risk of late fetal loss, this risk may be significantly greater in women multiple thrombophillic defects.

- Few small studies were showed compared to past pregnancies there was a higher success rate (84% vs 20%) in treated women.
DEFECTS CAUSING RECURRENT MISCARRIAGE

Pie chart showing the percentage distribution of defects causing recurrent miscarriage:
- Chromosome: 63%
- Anatomic: 15%
- Hormonal: 15%
- Coagulation: 7%
Mechanisms of Recurrent Miscarriage Due to Blood Coagulation Protein/Platelet Defects

Bleeding Disorders
- Factor XIII Deficiency
- Von Willebrand Disease
- Factor X Deficiency
- Factor VII Deficiency
- Factor V Deficiency
- Factor II Deficiency
- Hypofibrinogenemia
- Dysfibrinogenemia
- Hemophilia A Carrier

Thrombotic Disorders
- Antiphospholipid Syndrome
- Sticky Platelet Syndrome
- MTHFR Mutations
- Hyperhomocysteinemia
- PAI – 1 Elevation/Polymorphisms
- Protein S Deficiency
- Factor V Leiden
- Prothrombin G20210A
- Protein c Deficiency
- Antithrombin Deficiency
- Heparin – Cofactor II Deficiency
- TPA Deficiency
- Elevated Lipoprotein (a)
- Immune Vasculitis
Three - hundred fifty-one women referred for thrombosis and hemostasis evaluation and management during pregnancy after suffering recurrent miscarriages.

All patients were referred after anatomic, hormonal or chromosomal defects had been ruled out.

The mean patient age at referral was 34 years and the mean number of miscarriages was 2.9(2-9).

These patients were assessed over a three year period.
NO DEFFECT

DEFFCT

N = 351

322 (92%)

29 (8%)
Result of Treatment

- Live birth: 94%
- Abortion: 6%
Mumbai Institute of Immunohematology experiences

- Analyzed 32 consecutive pregnant women (mean age=24 years) with either DVT associated with pregnancy or a history of recurrent fetal loss for evaluation of thrombophilia and subsequent management during pregnancy.

- All the women had a thorough investigation (ie, cytogenetic, hormonal, anatomical, and infective causes for fetal loss) and were negative for above-mentioned causes.
Live birth rates achieved by LMWH and UFH in cases with recurrent fetal loss (RFL) and deep vein thrombosis (DVT).
Tehran University Thrombosis- Hemostasis Research Center Experiences

- REFERRED
- SELF-REFERRED
- OBSTETRICIAN/REPRODUCTIVE MEDICINE
  - ANATOMIC WORK-UP
  - ENDOCRINE WORK-UP
  - GENETIC/CHROMOSOME WORK-UP
  - APL-S WORK-UP

- COAGULATION/IMMUNOLOGIC WORK-UP
- NEGATIVE

- ETIOLOGICAL DIAGNOSIS

- TREATMENT PROGRAM DESIGNED
Analyzed 47 consecutive women (mean age=30.6 years) with either bad obstetric history or a history of recurrent fetal loss in themselves or her family for evaluation of thrombophilia and subsequent management during pregnancy.

Anticoagulation Regimen:
All patients with thrombophilia were treated immediate post-conception with ASA at 80 mg/day with addition of LMWH (Dalteparin) 5,000 IU/day subcutaneously until delivery, the anticoagulation was continued 6 weeks in postpartum.

The patients with MTHFR (hemocysteinemia) were also treated with folate at 5 mg/day + pyridoxine 50 mg/day+B12/monthly.
Laboratory Monitoring:
No anti-Xa or anti-IIa activity was studied in the case of women treated with LMWH.
During each visit, a detailed history of bleeding was taken from each patient.
The patient had routine blood count during follow-up, with special reference to thrombocytopenia.
Tehran University Thrombosis- Hemostasis Research Center Experiences

Age
Mean; 30.6y
Number of Abortion

Mean; 2.6
Tehran University Thrombosis-Hemostasis Research Center Experiences

Frequency of Coagulation Defect

12, 26%
35, 74%

Coagulation defect
Negative
Etiology of Coagulation Defects

- Hcy: 8
- PS def: 10
- PC def: 9
- FVL: 7
- FXIII Mutation: 12
- Negative: 2
- FXII def: 2
- PAI-1 Mutation: 5
- Pro. G20210A: 3
- APL-S: 3
- FVIII INCREASED: 4
Follow up Status

- No Follow up: 57%
- Follow up: 43%
Tehran University Thrombosis- Hemostasis Research Center Experiences

Result of Treatment

- Abortion: %28
- Live birth: %72
Conclusion

Comparison of results

- Dallas exp.
- Tehran exp.
- Munbai exp.

Total patients
Live birth
Conclusion

Comparison of results

- Dallas exp.: %94 total patients, %20 live birth
- Tehran exp.: %72 total patients, %40 live birth
- Mumbai exp.: %60 total patients, %40 live birth
Conclusion

- In our experience, thrombophillia is a common cause of recurrent miscarriage and all patients with no anatomical, hormonal or chromosomal defect should be evaluated for thrombophillia or bleeding disorder.

- The success rate of normal term delivery in these 27 patients was %72 using ASA + Daltaparin.

- In addition, side effects of therapy were minimal.