Management Parameters of Myeloproliferative Neoplasm (MPN) with JAKV617F mutation during Conception Optimizing The outcome

by

Ass.Prof. Rasha M.M.Said,MD;[1] Prof.Gihan K Shams,MD;[1] Dr.Ahmed Khaled K.Younis,[2] Msc

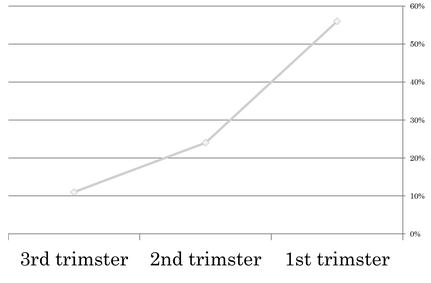
.(1) Ain Shams university(faculty of medicine),(2)

Al Sheik Zayed Al Nahian(MOH)

Background

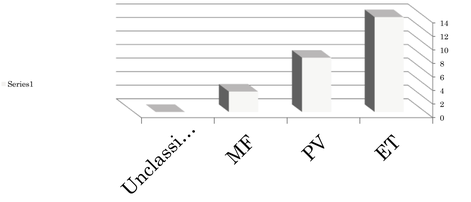
Essentail thrombocytopenia(ET),polycythemiavera(PV) and myelofibrosis (MF) are heterogeneous group of clonal hematopoietic cells the major subgroups within MPNs. MPNs can be critical, mainly due to risk of thrombosis. ET mainly concerned with incresased risk of thrombosis with preserved quality of life, PV affecting both morbidity and also life expectancy; both morbidity and also life expectancy; elevated total leucocytic count enhances the ttt with Interferon Alpha due to cytogenetic remission in in case of JAKV617Fand so Pregnancy with MPNs has been reported to be associated with maternal thrombosis, hemorrhage, and placental dysfunction leading to fetal growth restriction or loss

Graphs

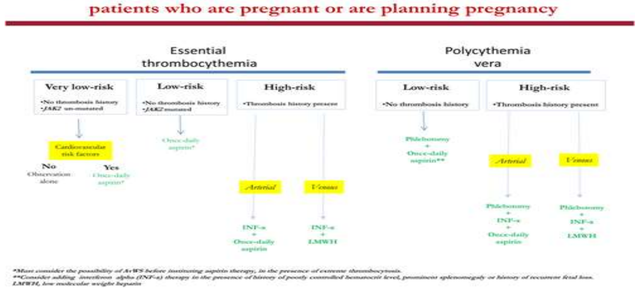


Materials and methods

retrospective study was held in Ain Shams university (outpatient clinic) and the prenatal care of El Sheik Zayed Al Nahian (MOH) .25 patients aged (18-55) were included14 patients with ET (56%),8 patients with PV (32%), 3 patients with MF 12%,those with myelofibrosis (Mf`) didn't met the inclusion criteria.



Algorithim



Aim of the study

Determing the risk of maternal and fetal complications in pregnancy complicated by MPN and to estimate the benefit of commonly used l.ines of management.

Results : total 118 pregnancies were recorded *with live birth represented 70% in ET and 62% in PV , 56% spontaneous losses occurred in the first trimester, 24% in the second trimester, and 11% in the third trimester. The aspirin dose was described in all patients with ET and PV with dose 75 mg and was correlated with the pregnancy outcome to show significant correlation with P value>0.5, Low mol. wt heparin was added as a second line in 64% of patients with significant correlation with pregnancy outcome as regard live birth P value >0.5.

Interferon was added in the second trimester in two patients with PV with no impact on the outcome of live birth, Patients with PV continue on Aspirin, Low molecular weight heparin (Clexan) postpartum till the end of the puerperium in 4 patients with PV.

Incidence of bleeding or thrombosis in patients treated with LMWH vs Aspirin only in the postpartum period, showed no significant difference, Preeclampsia was reported in 2 patients 8% ended in live birth .

Discussion

ET is the most prevalent in young women;Thrombosis was infrequent with pre-eclampsia (9%) and post-partum hemorrhage (12.5%) as major maternal complications was observed. Half of women were on aspirin prior to pregnancy with one-third on interferon-alpha (INF-α) (n = 14), followed by hydroxyurea (n = 10), and anagrelide (n = 4). On the other hand, during pregnancy, the vast majority (88%) were on aspirin therapy, 38% and 3% were prescribed prophylactic and therapeutic LMWH respectively, with 15% receiving INF-α. *(Gangat and Tefferi.2020).*

Overall(few studies demonstrated increased fetal loss with presence of the JAK2V617F mutation (*Rumi et al.,2015)*

Summary

Improving the outcomes and reduce complications, several strategies have been adopted including aspirin, heparin, and cytoreductions with interferon was being safe in conception with cytogenetic remission