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To the Editors:

Successful management of a pregnancy complicated by essential thrombocythaemia with pegylated interferon

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Essential thrombocythaemia (ET) is an acquired thrombophilic condition. Though it is more common in elderly females, about 20% are in the child bearing age giving rise to the possibility of ET complicating pregnancy. In the few reported cases, majority were managed with Interferon-α (INF-α), reflecting its efficacy and low toxicity in pregnancy. We present a case report of ET complicating pregnancy which was successfully managed with pegylated interferon (PEG-IFN) PEG-IFNα2a, which has a longer half life and less side effects.

The patient was a 36 year old woman, P_5C_1 who was diagnosed with ET one year prior to the current pregnancy. She had a bad obstetric history with one first trimester miscarriage, one second trimester intrauterine death and one early neonatal death following premature delivery at 27 weeks due to pregnancy induced hyper tension. She had a history of thrombosis (transverse sinus thrombosis) during the third pregnancy and was treated with therapeutic dose of low molecular weight heparin (LMWH). This was the only successful preg-nancy which produced a healthy baby.

One year prior to the current pregnancy, she was investigated for thrombocytosis (platelet count was above 700,000/mm^3 in serial monitoring) and bone marrow trephine morphology was in favour of ET and JAK2 V617F mutation was positive. She was managed with hydroxyurea and low dose aspirin.

She was reviewed at 8 weeks of pregnancy and was off hydroxyurea during the preceding two weeks. The platelet count was 700,000 /mm^3. Since she fell into the high risk category of ET, we treated her with Enoxaparin 40 mg/daily until 16 weeks of pregnancy and then 40 mg twice a day throughout pregnancy and aspirin 75 mg once a day [1]. As the platelet count was constantly around 600-700,000/mm^3, we treated her with PEG-INF-α2a. The aim was to maintain the platelet count less than 400,000/mm^3 which we achieved with PEG-INF-α2a escalating dose of 45/90 μg/week throughout pregnancy. She delivered at 38 weeks of gestation by an elective caesarean section. PEG-INF-α2a was continued post-partum and she was allowed to breastfeed. Enoxaparin and aspirin were given for six weeks post partum, and low dose aspirin was continued thereafter. Cytoreductive therapy was changed from PEG-INF to hydroxyurea once she stopped breastfeeding.

Essential thrombocythaemia is a sub category of myeloproliferative neoplasms (MPNs) characterised by a persistently elevated platelet count with associated thrombotic or haemorrhagic complications. ET is a disease of elderly females however, recent reports confirm the possibility of its occurrence in the child bearing age – the second peak incidence [2]. Out of all Philadelphia-

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negative MPN complicated pregnancies, the most extensive literature is for patients with ET with over 280 pregnancies reported in a retrospective case series [1].

There have been a number of studies which demonstrated increased rate of fetal complications such as first trimester losses, late pregnancy losses, intrauterine growth restriction, pre-term delivery and placental abruption [2]. Of the maternal complications, thrombosis is usually minor. However, major thromboses such as sagittal sinus thrombosis, deep vein thrombosis and transient ischaemic attacks have been reported. Bleeding is generally minor occurring in 4-5% [1]. The management of pregnant patients with ET is challenging. The percentage of live babies is higher (74%) in treated pregnancies, irrespective of the treatment modality, than in untreated pregnancies (43%) [3]. The treatment modalities ranged from antiplatelet drugs, heparin, plateletapheresis to cytoreductive therapy [3]. Even-though it is a FDA class C drug which is used off-label, interferon alpha (INFa) is the cytoreductive agent of choice during pregnancy as others like hydroxyurea have a potential teratogenic effect [2].

There is evidence that normal human placenta also secretes small amount of INF, indicating its safety during pregnancy. There are no reports of teratogenic effects in animal studies at standard doses [2]. Drawbacks of INFα are its side effects (flu like symptoms, severe musculo-skeletal pain and depression) and physical discomfort to the patient with daily subcutaneous injections. Pegylated interferon has overcome this problem with its long half life (weekly injections), increased drug stability, solubi-lity and fewer side effects. Although both Peg-IFN-α2a and Peg-IFN-α2b have been used in the treatment of patients with MPNs, there is an increasing trend in the use of Peg-IFN-α2a than Peg-IFN-α2b due to side effects [4].

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Conflicts of interest

We declare that there are no conflicts of interest.

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