

Pregnancy & family planning with CML



25% of chronic myeloid leukemia (CML) patients are diagnosed at reproductive age (≤ 49 years)¹

Goals of therapy are to achieve "functional cure", thereby enabling pregnancy. **Communication** between haematologists, obstetricians and neonatologists is key²



Current challenges include disease control during pregnancy whilst limiting detrimental effects of tyrosine kinase inhibitor (TKI) therapy on the foetus

Paternal considerations

TKI usage does not have to be discontinued when planning fatherhood

Guidelines³⁻⁵
(ELN, NCCN & ESH)



Imatinib may impair spermatogenesis and decrease testosterone levels

Fertility^{4,6,7}



There appear to be no limitations on the use of TKIs during conception. Sperm banks may also be used in case of concerns

Conception^{2,9,10}



Breastfeeding⁹

Maternal considerations

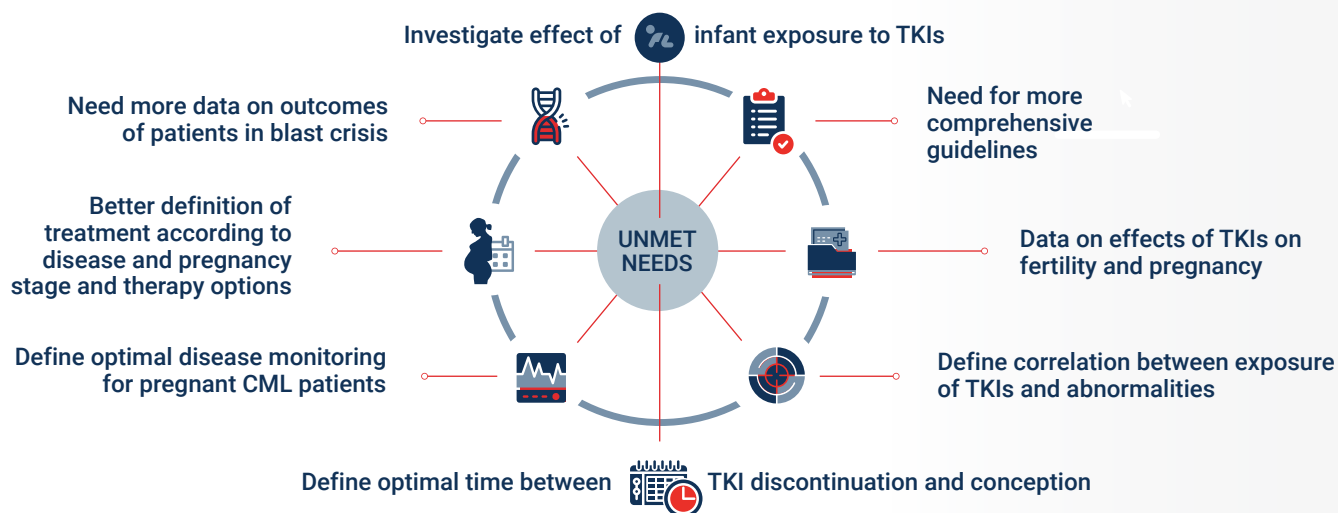
- TKI usage should be discontinued in pregnancy, especially in the 1st trimester
- If treatment is required during pregnancy, options include leukapheresis and interferon α . Acetyl salicylic acid, low molecular weight heparin and low dose aspirin are also safe during gestation
- Imatinib may be used in the 2nd and 3rd trimesters. Hydroxyurea should not be used especially in 3rd trimester

- Patients retain some fertility whilst on imatinib but fertility/pregnancy counselling should be done at diagnosis before starting any TKI therapy

- Maternal exposure to TKIs may result in foetal malformations such as skeletal and soft tissue abnormalities as well as spontaneous abortion
- TKI treatment **must be stopped** at first pregnancy test and avoided during organogenesis. Egg retrieval during treatment cessation for use after treatment termination may be the best option

- Can be done in the first 5 days after labour to give the baby the benefit of the colostrum. Breastfeeding generally not advised whilst on any treatment

Ideally, **no TKI should be used during pregnancy**, however if they are needed they can be ranked in terms of preclinical data, placenta crossing, congenital abnormalities, usage during pregnancy & breastfeeding^{2,10-27}



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