FUTURE SCOPE

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1. As observed from experiments and investigations on the Imatinib efficacy, there exist a drawback at the suboptimal level and suggested approach for the improvements are:
   1. Resistance through the use of cellular mechanism on mutation
      1. Replication/ Increase in intensity of genes
      2. Overexpression of Kinase
      3. Administration of drug efflux [1], [2], [3], [4], [5]
   2. For the changing pharmacokinetic responses towards the theory of Imatinib, the hypothesis testing is performed to test the Imatinib level of plasma of the patients by comparing the standard dosage of major molecular and complete cytogenetic responses (MMR and CCyR/CCR).

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1. A study compared the effectiveness of Imatinib with cytarabine in a low-dose and with the fresh CML [3], [6], it was found that over the span of 5 years the Complete Cytogenetic Response (CCyR) rose from 76% to 87% with 89% survival rate without any implications and reactions.
2. For pharmacokinetic (pk modelling), Imatinib is well known for its oral bioavailability (absorption rate, f=1), and drug-response dependency [7], [8] with close to 20 hrs of half-life time. Still, it is not the most effective approach due to failure in suboptimal response i.e., due to
   1. Mutations [9]. [10]
   2. Drug exposure (with respect to the threshold level) [11], [12]
   3. Enzymic activities [13], [14], [15], [16]
   4. Spread and absorption of dose [17], [18], [19], [20], [21]
   5. Sokal score [22]
   6. Influence of CCyR [3], [6], [23]
3. Moreover, the exposure of Imatinib is influenced by:
   1. Absorption
   2. Reaction with existing medication
   3. Therapeutics threshold limit
4. Isoenzymes helps in metabolising Imatinib [7], [8], [24] but within the patients of CML [7], [8] it has shown fluctuating responses of enzymes [15], [16], a flamboyant isoenzyme known for it response to metabolism and PK activity [25], [26], [27], [28], [29] is CYP3A4.
5. \*Exposure of plasma for Imatinib at a steady state can play a vital role in MMR and CCyR.

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