

Neuraxial vs general anaesthesia in a parturient with chronic myeloid leukaemia: a challenging decision

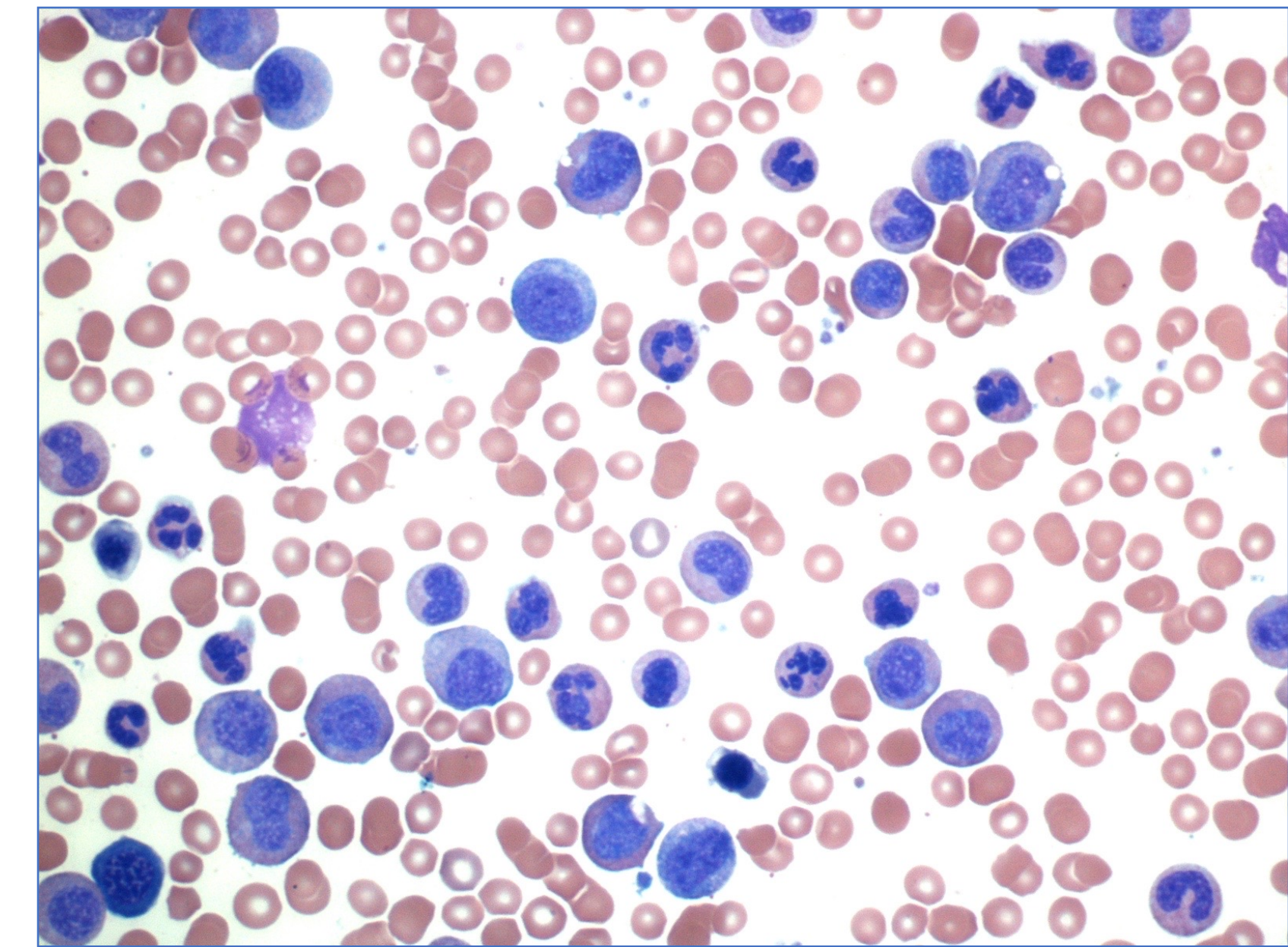
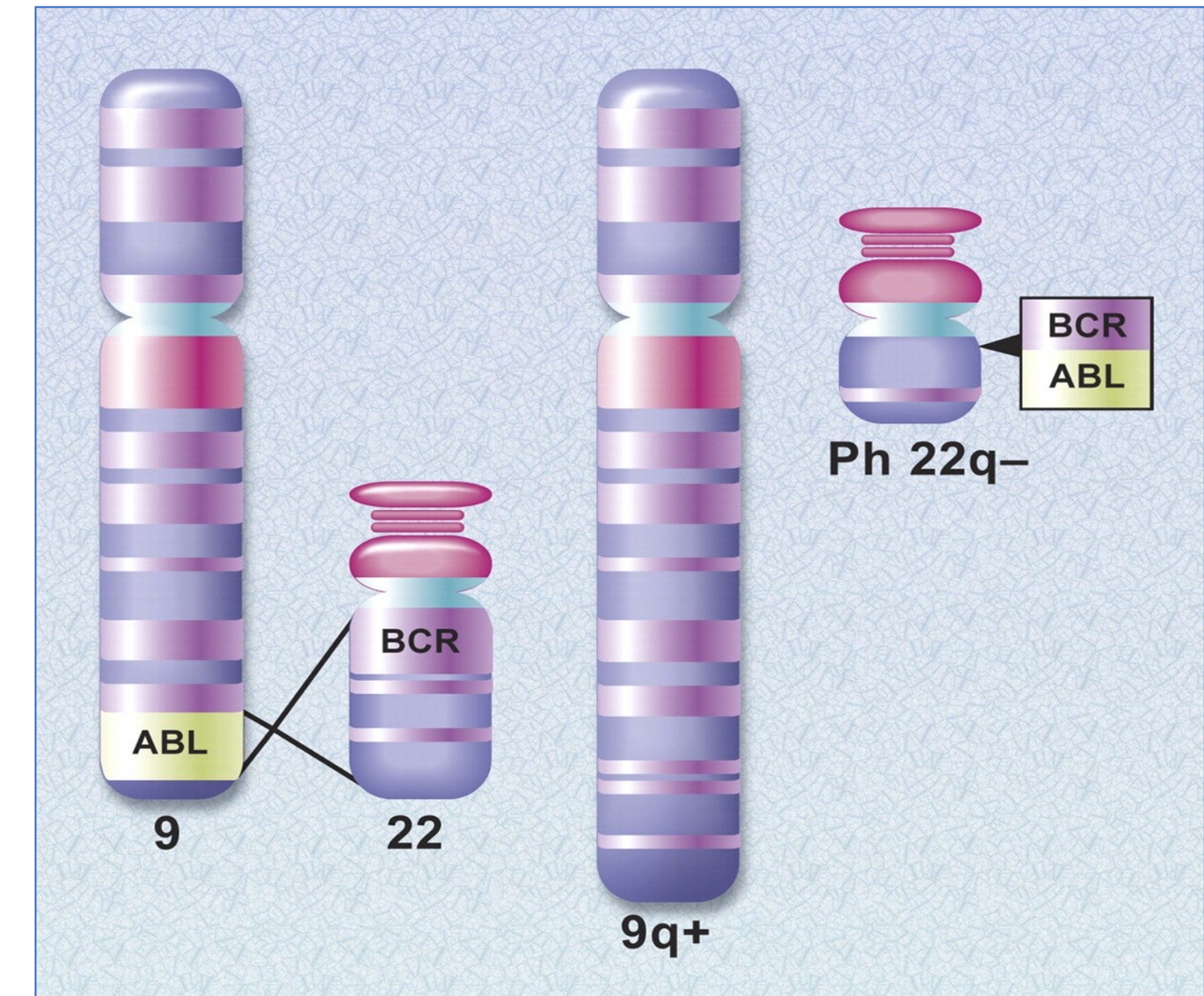
Maria Herincs, MBBS, PhD and Kate Cheesman, FRCA
Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom



Guy's and St Thomas'
NHS Foundation Trust

CHRONIC MYELOID LEUKAEMIA IN PREGNANCY

- Chronic myeloid leukaemia (CML) is a **myeloproliferative** neoplasm characterized by the production of large numbers of myeloid cells at various stages of maturation in peripheral blood
- Philadelphia chromosome (reciprocal translocation t(9;22)(q34;q11.2)), found in almost 95% of patients
- Accounts for about 14% of all leukaemia
- **1:75000 pregnancies**
- Treatment is aimed at myelosuppression in the chronic stage delaying the accelerated or blastocystic phase
- Tyrosine kinase inhibitors (TKIs) are effective but can be teratogenic so are often discontinued during pregnancy, putting women at higher risk of developing blast crisis
- **Immature blast cells entering the circulation (blast cell crisis) is one of the most dangerous complications** associated with rapid clinical deterioration and poor survival rates
- **A central nervous system blast crisis can be induced by inadvertent intrathecal seeding of circulating blast cells when performing spinal or epidural anaesthesia**
- **Little guidance or consensus on the acceptable percentage of circulating blast cells** when performing regional anaesthesia



References

Wang Y, Jiang L, Li B, Zhao Y. Management of Chronic Myeloid Leukemia and Pregnancy: A Bibliometric Analysis (2000-2020). Front Oncol. 2022.

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CASE REPORT

- 30-year-old, gravida 1, para 0 presented at 38 weeks of gestation for induction of labour
- Past medical history:
 - **CML diagnosis a year before conception**
 - On TKI treatment changed to interferon-alpha for pregnancy
 - **No anaesthetic review antenatally**
- Requested an epidural for labour analgesia out of hours
- After discussion with the haematology and obstetric medicine team, we decided it was safe to perform regional anaesthesia given she had **1% circulating blast cells** with normal full blood count and normal coagulation results
- **Uneventful epidural insertion was performed**, and she went on to have an uncomplicated forceps delivery



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DISCUSSION

- Significant challenge for an anaesthetist to formulate an anaesthetic plan and consent a pregnant lady with CML
- **Limited and controversial published data** on the safety of regional techniques in this patient group
- Only a handful of case reports, the **majority of which opting for a general anaesthetic over a regional blockade even in cases with very low percentage of circulating blast cells (less than 5%).**
- There are **no published case reports or guidelines on epidural analgesia for the labouring CML patient.**

A multi-disciplinary approach and further research is necessary to generate a clear consensus on the acceptable percentage of circulating blast cells that is safe for regional anaesthesia.