Practically you are looking @ CMPD

Normally 4 CMPDs are common

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CML, PV, ET, PMF [CML being frequent]

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In the present case — PV not possible – Hb 13.5

ET not possible – PLT 4.4

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So possibly looking at (CML)

Confirmation of diagnosis

1. bcr abl by PCR or FISH

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PCR had advantages over FISH

1. Faster, slightly less costlier
2. We know transcript type (p210, p190 or p230)
3. Well defined time points for monitoring

Advantages of FISH

1. Can sometimes be positive even if PCR negative (unknown transcripts can be identified)

Helps in monitoring and important in planning TFR to know transcript type

Other tests

Bone marrow aspiration & biopsy + Karyotyping

LFT
RFT
TLS
Viral markers

Importance of Karyotyping

1. Knowing additional chromosomal abnormalities
2. If bcr abl negative monitoring can be done by cytogenetic response

Bone marrow aspiration & biopsy → mandatory @ diagnosis

1. To know exact phase of disease
2. Collect good sample for cytogenetics (we will get good quality metaphases)
3. myelofibrosis grade can be assessed

phase migration (cp to AP or BC) can happen sometimes

major concern

presence of major route abnormalities (double Ph, Trisomy 8, Trisomy 19, isochromosome 17q)

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may have impact on attaining optimal response and survival

Some data to say higher grade of 2° myelofibrosis → lead to frequent cytopenias → dose reductions → less MMR

So, in such cases → r/o CML by all possible methods PCR, cytogenetics and FISH before concluding its not CML

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if negative other DDs work up can be done