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Thrombocytopenia Are Significantly Influenced by Accurate Morphologic Analysis: An International Study. *Clin. Oncol.* 2011;29:31793184. doi: 10.1200/JCO.2010.34.5298. [DOI] [PubMed] [Google Scholar]97.Langabeer S.E. Chasing down the triple-negative myeloproliferative neoplasms: Implications for molecular diagnostics. *Jak-stat.* 2016;5:e1248011. doi: 10.1080/21623996.2016.1248011. [DOI] [PMC free article] [PubMed] [Google Scholar]98.Rozovski U, Vershovsek S, Manshoury T, Dembitz V, Bozinovic K, Newberry K, Zhang Y, Bove J.E, Pierce S., Kantarjian H, et al. An accurate, simple prognostic model consisting of age, JAK2, CALR, and MPL mutation status for patients with primary myelofibrosis. *Haematology.* 2016;102:7984. doi: 10.3324/haematol.2016.149765. [DOI] [PMC free article] [PubMed] [Google Scholar]99.Guglielmelli P, Barosi G, Specchia G, Rambaldi A, Coco F.L, Antonioli E, Pileri L, Pancrazzi A, Ponziani V, Delaini F., et al. Identification of patients with poorer survival in primary myelofibrosis based on the burden of JAK2V617F mutated allele. *Blood.* 2009;114:14771483. doi: 10.1182/blood-2009-04-216044. [DOI] [PubMed] [Google Scholar]100.Tefferi A, Lasho T.L, Finke C.M, Knudson A.R, Ketterling R, Hanson C.H, Maffioli M, Caramazza D, Passamonti F, Pardanani A. CALR vs JAK2 vs MPL-mutated or triple-negative myelofibrosis: Clinical, cytogenetic and molecular comparisons. *Leukemia.* 2014;28:14721477. doi: 10.1038/leu.2014.3. [DOI] [PubMed] [Google Scholar]101.Rumi E, Pietra D, Ferretti V, Klampfl T, Harutyunyan A.S., Milosevic J.D., Them N.C.C., Berg T., Elena C., Casetti I.C., et al. JAK2 or CALR mutation status defines subtypes of essential thrombocythemia with substantially different clinical course and outcomes. *Blood.* 2014;123:15441551. doi: 10.1182/blood-2013-11-539098. [DOI] [PMC free article] [PubMed] [Google Scholar]102.Finazzi M.C., Carobbio A., Cervantes F., Isola I.M., Vannucchi A.M., Guglielmelli P., Rambaldi A., Finazzi G., Barosi G., Barbui T. CALR mutation, MPL mutation and triple negativity identify patients with the lowest vascular risk in primary myelofibrosis. *Leukemia.* 2014;29:12091210. doi: 10.1038/leu.2014.343. [DOI] [PubMed] [Google Scholar]103.Tefferi A., Lasho T.L., Tischer A., Wassie E.A., Finke C.M., Belachew A.A., Ketterling R.P., Hanson C.A., Pardanani A.D. The prognostic advantage of calreticulin mutations in myelofibrosis might be confined to type 1 or type 1-like CALR variants. *Blood.* 2014;124:24652466. doi: 10.1182/blood-2014-07-588426. [DOI] [PMC free article] [PubMed] [Google Scholar]104.Tefferi A., Nicolosi M., Mudireddy M., Szuber N., Finke C.M., Lasho T.L., Hanson C.A., Ketterling R.P., Pardanani A., Gangat N., et al. Driver mutations and prognosis in primary myelofibrosis: Mayo-Careggi MPN alliance study of 1,095 patients. *Am. J. Hematol.* 2018;93:349355. doi: 10.1002/ajh.24978. [DOI] [PubMed] [Google Scholar]105.Saki N., Shirzad R., Rahim F., Malehi A.S. Estimation of diagnosis and prognosis in ET by assessment of CALR and JAK2V617F mutations and laboratory findings: A meta-analysis. *Clin. Transl. Oncol.* 2017;19:874883. doi: 10.1007/s12094-017-1618-1. [DOI] [PubMed] [Google Scholar]106.Tefferi A., Barbui T. Polycythemia vera and essential thrombocythemia: 2021 update on diagnosis, risk-stratification and management. *Am. J. Hematol.* 2020;95:15991613. doi: 10.1002/ajh.26008. [DOI] [PubMed] [Google Scholar]107.Pardanani A., Lasho T.L., Finke C.M., Oh S.T., Gotlib J., Tefferi A. LNK mutation studies in blast-phase myeloproliferative neoplasms, and in chronic-phase disease with TET2, IDH, JAK2 or MPL mutations. *Leukemia.* 2010;24:17131718. doi: 10.1038/leu.2010.163. [DOI] [PubMed] [Google Scholar]108.Tefferi A., Pardanani A. Myeloproliferative Neoplasms. *JAMA Oncol.* 2015;1:97105. doi: 10.1001/jamaoncol.2015.89. [DOI] [PubMed] [Google Scholar]109.Chang Y.-C., Lin H.-C., Chiang Y.-H., Chen C.G.-S., Huang L., Wang W.-T., Cheng C.-C., Lin J., Chang Y.-F., Chang M.-C., et al. Targeted next-generation sequencing identified novel mutations in triple-negative myeloproliferative neoplasms. *Med. Oncol.* 2017;34:83. doi: 10.1007/s12032-017-0944-z. [DOI] [PubMed] [Google Scholar]110.Lundberg P., Karow A., Nienhold R., Looser R., Hao-Shen H., Nissen I., Girsberger S., Lehmann T., Passweg J., Stern M., et al. Clonal evolution and clinical correlates of somatic mutations in myeloproliferative neoplasms. *Blood.* 2014;123:22202228. doi: 10.1182/blood-2013-11-537167. [DOI] [PubMed] [Google Scholar]111.Agarwal R., Blombery P., McBean M., Jones K., Fellowes A., Doig K., Forsyth C., Westerman D.A. Clinicopathological differences exist between CALR- and JAK2-mutated myeloproliferative neoplasms despite a similar molecular landscape: Data from targeted next-generation sequencing in the diagnostic laboratory. *Ann. Hematol.* 2017;96:725732. doi: 10.1007/s00277-017-2937-6. [DOI] [PubMed] [Google Scholar]112.Tefferi A., Guglielmelli P., Lasho T.L., Coltro G., Finke C.M., Loscocco G.G., Sordi B., Szuber N., Rotunno G., Pacilli A., et al. Mutation-enhanced international prognostic systems for essential thrombocythaemia and polycythaemia vera. *Br. J. Haematol.* 2020;189:291302. doi: 10.1111/bjh.16380. [DOI] [PubMed] [Google Scholar]113.Tefferi A., Lasho T.L., Guglielmelli P., Finke C.M., Rotunno G., Elala Y., Pacilli A., Hanson C.A., Pancrazzi A., Ketterling R.P., et al. Targeted deep sequencing in polycythemia vera and essential thrombocythemia. *Blood Adv.* 2016;1:2130. doi: 10.1182/bloodadvances.2016000216. [DOI] [PMC free article] [PubMed] [Google Scholar]114.Cervantes F., Dupriez B., Pereira A., Passamonti F., Reilly J.T., Morra E., Vannucchi A.M., Mesa R.A., Demory J.-L., Barosi G., et al. New prognostic scoring system for primary myelofibrosis based on a study of the International Working Group for Myelofibrosis Research and Treatment. *Blood.* 2009;113:28952901. doi: 10.1182/blood-2008-07-170449. [DOI] [PubMed] [Google Scholar]115.Tefferi A., Guglielmelli P., Nicolosi M., Mannelli F., Mudireddy M., Bartalucci N., Finke C.M., Lasho T.L., Hanson C.A., Ketterling R.P., et al. GIPSS: Genetically inspired prognostic scoring system for primary myelofibrosis. *Leukemia.* 2018;32:16311642. doi: 10.1038/s41375-018-0107-z. [DOI] [PMC free article] [PubMed] [Google Scholar]116.Tefferi A., Guglielmelli P., Lasho T.L., Gangat N., Ketterling R.P., Pardanani A., Vannucchi A.M. MIPSS70+ Version 2.0: Mutation and Karyotype-Enhanced International Prognostic Scoring System for Primary Myelofibrosis. *J. Clin. Oncol.* 2018;36:17691770. doi: 10.1200/JCO.2018.78.9867. [DOI] [PubMed] [Google Scholar]117.Guglielmelli P., Lasho T.L., Rotunno G., Mudireddy M., Mannarelli C., Nicolosi M., Pacilli A., Pardanani A., Rumi E., Rosti V., et al. MIPSS70: Mutation-Enhanced International Prognostic Score System for Transplantation-Age Patients with Primary Myelofibrosis. *J. Clin. Oncol.* 2018;36:310318. doi: 10.1200/JCO.2017.76.4886. [DOI] [PubMed] [Google Scholar]118.Shouval R., Fein J.A., Savani B., Mohty M., Nagler A. Machine learning and artificial intelligence in haematology. *Br. J. Haematol.* 2021;192:239250. doi: 10.1111/bjh.16915. [DOI] [PubMed] [Google Scholar]119.Handelman G.S., Kok H.K., Chandra R.V., Razavi A.H., Lee M.J., Asadi H. eDoctor: Machine learning and the future of medicine. *J. Intern. Med.* 2018;284:603619. doi: 10.1111/joim.12822. [DOI] [PubMed] [Google Scholar]120.Gupta V., Braun T.M., Chowdhury M., Tewari M., Choi S.W. A Systematic Review of Machine Learning Techniques in Hematopoietic Stem Cell Transplantation (HSCT) Sensors. 2020;20:6100. doi: 10.3390/s20216100. [DOI] [PMC free article] [PubMed] [Google Scholar]121.Sirimukunwattana K., Aberdeen A., Theissen H., Sousos N., Psaila B., Mead A.J., Turner G.D.H., Rees C., Ritscher J., Royston D. Artificial intelligence-based morphological fingerprinting of megakaryocytes: A new tool for assessing disease in MPN patients. *Blood Adv.* 2020;4:32843294. doi: 10.1182/bloodadvances.2020002230. [DOI] [PMC free article] [PubMed] [Google Scholar]122.Guo C., Li Z. Bioinformatics Analysis of Key Genes and Pathways Associated with Thrombosis in Essential Thrombocythemia. *Med. Sci. Monit.* 2019;25:92629271. doi: 10.12659/MSM.918719. [DOI] [PMC free article] [PubMed] [Google Scholar]123.Liu L.-J., Cao X.-J., Zhou C., Sun Y., Lv Q.-L., Feng F.-B., Zhang Y.-Y., Sun C.-G. Construction of polycythemia vera protein interaction network and prediction of related biological functions. *Genet. Mol. Res.* 2016;15 doi: 10.4238/gmr.15017169. [DOI] [PubMed] [Google Scholar]124.Xu S., Ning P. Predicting pathogenic genes for primary myelofibrosis based on a systemnetwork approach. *Mol. Med. Rep.* 2017;17:186192. doi: 10.3892/mmr.2017.7847. [DOI] [PMC free article] [PubMed] [Google Scholar]This section collects any data citations, data availability statements, or supplementary materials included in this article.Did not report any data.Articles from International Journal of Molecular Sciences are provided here courtesy of Multidisciplinary Digital Publishing Institute (MDPI)

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