lymphoid tissue lymphoma. Clin Gastroenterol Hepatol. 2010;8:105e110.
19. Wirth A, Gospodarowicz M, Aleman BM, et al. Long-term outcome for gastric marginal zone lymphoma treated with radiotherapy: a retrospective, multi-centre, International Extranodal Lymphoma Study Group study. Ann Oncol. 2013;24:1344e1351.
20. Traverse-Glehen A, Bertoni F, Thieblemont C, Zucca E, Coiffier B, Berger F, et al. Nodal marginal zone B-cell lymphoma: a diagnostic and therapeutic dilemma. Oncology (Williston Park). 2012;26(1):92–9, 103–4.
21. Mondello P, Steiner N, Willenbacher W, et al. Bendamustine plus rituximab versus R-CHOP as first-line treatment for patients with indolent non-Hodgkin's lymphoma: evidence from a multicenter, retrospective study. Ann Hematol. 2016;95(7):1107–14.

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SP 07

Bone marrow failure

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Aplastic anemia may be the result of the immune attack against hematopoietic stem and progenitor cells or the impairment of appropriate hematopoietic stem cell function due to inherited genetic defects. Although bone marrow transplantation is the preferential therapy for severe cases, the majority of patients lack a suitable sibling donor. The thrombopoietin receptor agonist eltrombopag has been recently added to immunosuppressive therapy, reaching high response rates and overall survival, rivaling matched-donor transplant results. Additionally, genetic defects in telomere-maintenance genes appear to be the most prevalence etiology of inherited aplastic anemia. Sex hormones may recover hematopoiesis in these cases. The occurrence of somatic genetic mutations in immune and inherited aplastic anemia may help to understand the complex dynamics of hematopoietic stem cells in vivo.

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SP 08

Immunocompromised patients: prevention, diagnosis and therapy of infection

Marcio Nucci

Patients with bone marrow failure are at increased risk to develop severe infection. The main immunodeficiency is neutropenia, particularly in patients with acute leukemia and severe aplastic anemia. In addition, treatment-related immunodefficiencies further increase the risk of infection, including mucositis caused by intensive chemotherapy, and T-cell immunodeficiency that follows immunosuppressive therapies for aplastic anemia. In neutropenic patients, prophylactic strategies focus on the prevention of bacterial and fungal infections. A key element in the management is the prompt initiation of empiric antibiotic therapy in febrile neutropenic patients, focusing on Gram-negative bacteria. With this regard, the emergence infection caused by multi-drug resistant Gram-negative bacteria is a major challenge, because inappropriate antibiotic coverage is associated with high mortality rates. Therefore, it is imperative to know local epidemiology in order to select the most appropriate antibiotic regimen. Likewise, changes in the initial empiric antibiotic regimen should be driven by objective parameters and not just fever. For invasive fungal disease, while the empiric antifungal therapy is still used, this strategy has been replaced by a preemptive diagnostic-driven approach. In this strategy, serial (2–3×/week) serum galactomannan and chest tomograpy drive the start of antifungal therapy. Finally, while the wise and appropriate employment of all these strategies is very important, recovery from neutropenia is the main prognostic factor. Therefore, every efforts must be devoted to control the underlying disease.

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SP 09

Paroxysmal nocturnal hemoglobinuria pnh

Hanan Hamed

Objective: PNH is a condition in which uncontrolled complement activity leads to systemic complications, principally through intravascular hemolysis and platelet activation. It arises through a somatic mutation of the phosphatidylinositol glycan A (PIG-A) gene in bone marrow stem cells,[1,2] resulting in disruption to glycosylphosphatidylinositol (GPI) biosynthesis.[3]

Results: Among the deficient proteins are the complement regulatory proteinsCD55 andCD59, resulting in increased complement sensitivity of PNH cells, intravascular hemolysis, promotion of inflammatory mediators, and systemic hemoglobin release.[4] Patients with PNH can present with multisystemic clinical manifestations due to intravascular hemolysis, thrombosis and bone marrow failure.[5] Symptoms are therefore often non-specific, ranging from loss of vision (due to retinal thrombosis), headache and nausea/vomiting (due to cerebral thrombosis), pulmonary hypertension (due to pulmonary embolism), anaemia, through to pain and swelling in the lower extremities (due to deep vein thrombosis), renal failure and other symptoms affecting different systems.[6] Thromboembolism is the most common cause of mortality in patients with PNH and accounts for approximately 40% to 67% of deaths of which the cause is known. Further, 29% to 44% of patients with PNH have been reported to have at least 1 thromboembolic event during the course of their disease, although the reason(s) a thrombotic event may suddenly occur remains an enigma.[7–9] Platelet activation, complement-mediated hemolysis, impaired nitric oxide (NO) bioavailability, impairment of the fibrinolytic system, and inflammatory mediators are all proposed mechanisms and thought to be responsible for the increased thrombotic risk in patients with PNH. Multiple factors are likely to contribute to any one thrombotic event in patients with PNH.[10]

Conclusion: Therapeutic strategies include terminal complement blockade and bone marrow transplantation. Eculizumab, a monoclonal antibody complement inhibitor, is highly effective and the only licensed therapy for PNH.[11] The therapeutic anti-C5 antibody eculizumab (Soliris, Alexion)