classified as severe (27 patients) or moderate (12 patients) with FVIII:C dosage <3%. After collection, samples were processed for genomic DNA extraction. First, patients were genotyped for intron 22 inversion by inverse PCR. Patients who were negative for intron 22 inversion were genotyped for intron 1 inversion. Samples negative for both inversions will be full-length NGS sequencing. Among 39 patients, 21 (54%) were diagnosed with intron 22 inversion and one (2%) with intron 1 inversion. In addition, among 12 patients previously diagnosed with moderate HA, seven (58%) patients were reclassified as severe HA because they presented intron 22 inversion. The molecular diagnosis proved to be important for the correct classification of the severity of HA patients. Due to the diagnosis normally based only on residual activity of plasmatic FVIII, the disease severity classification may be incorrect. It is believed that the high variability of coagulometric techniques and the treatment of patients prior to laboratory diagnosis may affect the correct classification of HA patient severity. This is an ongoing study and the number of participants needs to be increased in order to draw conclusions. We thank all participants, Fapemig, Hemominas, and the CGSH of the Ministry of Health.

https://doi.org/10.1016/j.htct.2022.09.477

QUALITY OF LIFE OF HEMOPHILIA A FEMALE CARRIERS OF INTRON 22 INVERSION

SSDA Perpétuo, CGR Matosinho, DG Chaves

Fundação Centro de Hematologia e Hemoterapia do Estado de Minas Gerais (Hemominas), Belo Horizonte, MG, Brazil

Assessing the quality of life of family members of patients with hemophilia A (HA) is necessary given the emotional overload and dedicated care of their family members. The 36-item Short Form Health Survey (SF-36) measure quality of life related to health using eight health concepts: physical functioning (PF), limitations due to physical health (PH), pain (P), general health (GH), energy/fatigue (EF), social functioning (SF), limitations due to emotional problems (EP), and emotional well-being (EW). The aim of this study was to analyze the quality of life profile of family members of patients with severe hemophilia A with intron 22 inversion mutation treated at Fundação Hemominas. To date, sixteen participants have been enrolled in the study after signing an informed consent form. Participants answered a 36-item short health questionnaire and collected peripheral blood samples in citrate tubes. Samples were processed for DNA extraction and genotyping. Participants were divided into two groups: Carriers of the intron 22 inversion and participants who were not carriers of the intron 22 inversion mutation. Among carriers the median (MED) scores were: 88% (IQR 77.5%-96%) for PF; 100% (IQR 56.3%-100%) for PH; 61% (IQR 61%-72%) for P; 87% (IQR 77%-92%) for GH; 60% (IQR 38.8% - 66.3%) for EF; 69% (IQR 47% - 75%) for SF; 100% (IQR 24.8% - 100%) for EP; and 70% (IQR 59% - 76%) for EW. Among participants who were not carriers, 93% (IQR 81.3% - 95%) for PF; 88% (IQR 18.8% - 100%) for PH; 72% (IQR 58.3% - 88%) for P; 67% (IQR 47%-80.3%) for GH; 58% (IQR 41.3%-70%) for EF; 69% (IQR 52.8%-91%) for SF; 84% (IQR 0%-100%) for EP; and 68% (IQR 54%-78%) for EW. Interestingly, carriers presented a significant higher score in general health domain ($p = 0.03$). In conclusion, this study is important to assess the quality of life in relatives (carriers and non-carriers) of HA patients. This is an ongoing project and the number of participants needs to be increased in order to draw conclusions. We thank all participants, Fapemig, Fundação Hemominas, and the CGSH of the Ministry of Health.

https://doi.org/10.1016/j.htct.2022.09.478

INVESTIGATION OF INHERITANCE BY MOLECULAR DIAGNOSIS IN A FAMILY WITH NO FAMILY HISTORY OF HEMOPHILIA A: CASE REPORT

SSDA Perpétuo, CGR Matosinho, MAP Santana, DG Chaves

Fundação Centro de Hematologia e Hemoterapia do Estado de Minas Gerais (Hemominas), Belo Horizonte, MG, Brazil

Hemophilia A (HA) is classified according to residual circulating FVIII (FVIII:C). Patients with FVIII:C 5%-40% are classified as mild HA; patients with FVIII:C 1%-5% are considered moderate; and patients with FVIII:C <1% are classified as severe HA. Patients with severe HA have two common mutations: Inversions of introns 1 and 22 of the F8 gene. The aim of this study is to report the case of a patient diagnosed with HA without any family history of the disease and treated in Fundação Hemominas in 2022. Male patient, NB, presented an extensive hematoma on the back after 24 hours of delivery. A blood count was performed, which reveals a hemoglobin value of 5 g/dL (reference value approximately 16 g/dL). Patient is admitted to the ICU where a blood transfusion and coagulometric tests are performed, indicating HA. The patient is referred to the pediatric hematology unit of Fundação Hemominas. Coagulation tests confirmed the diagnosis of severe HA. The patient was referred for molecular diagnosis of the disease. In addition, three members of the patient's family agreed to participate in the molecular diagnosis. The family members answered two questionnaires: 1) bleeding assessment score - ISTH (BAT-ISTH); and 2) arthralgia assessment. Peripheral blood was drawn from all participants in a citrate tube, and samples were processed for genomic DNA extraction. Genotyping of the intron 22 inversion mutation was performed by inverse PCR. The patient was positive for intron-22 inversion, confirming the diagnosis of severe hemophilia A. The patient's mother (34 years old), with a bleeding score of 3, without joint pain, was diagnosed with the same inversion and received genetic counseling when the report was handed over. The patient's aunt (30 years old), with a bleeding score of 0, without joint pain, had a negative result for intron inversion 22. The patient's grandmother, 59 years old, with a bleeding score of 1, who presented right knee pain, also had a negative result. Evaluation of the patient's three-generation pedigree suggests that the patient inherited the de

novo mutation from his mother. In conclusion, molecular diagnosis of patients and their families is considered important for correct classification of disease severity and for the development of family studies with regard to genetic counseling of patients and women with mutated F8 genes. Additionally, molecular diagnosis is important to verify the de novo mutation rate in the population of patients with HA. We thank all participants, Fapemig, Hemominas, and the CGSH of the Ministry of Health.

https://doi.org/10.1016/j.htct.2022.09.479

CLINICAL AND HEMORRHAGIC PROFILES OF PATIENTS WITH VON WILLEBRAND DISEASE

SSDA Perpétuo, CGR Matosinho, DG Chaves

Fundação Centro de Hematologia e Hemoterapia do Estado de Minas Gerais (Hemominas), Belo Horizonte, MG, Brazil

The von Willebrand factor (VWF) gene is located on Chr12p12, and deleterious mutations in this gene cause von Willebrand disease (VWD). VWD is an inherited coagulopathy that affect FvW both quantitatively and qualitatively. There are three main types of the disease (types 1, 2, and 3) and a total of 6 subgroups. In type 1, patients have a lower concentration of circulating FVW. In type 2, a lower activity of circulating FVW is observed, and in type 3, there is virtually no circulating FVW. VWD is the most common and least diagnosed coagulation disorder. The aim of this study was to analyze the clinical and hemorrhagic profiles of patients with VWD treated at Fundação Hemominas. Patients were invited to participate when they visited the treatment center. The 30 patients answered two questionnaires: 1) Bleeding Assessment Score - ISTH (BAT-ISTH); and 2) Arthralgia Assessment. Among female patients (n = 17) the mean (MED) age was 38.5 years (IQR 34.5-43.8) and the MED bleeding score was 13 (IQR 8.8-16.5). The most common bleeding events occurring were: cutaneous bleeding (n = 15 – 88.2%), bleeding from the oral cavity (n = 14 – 82.4%), menorrhagia (n = 13 – 74.5%), bleeding in small wounds (n = 11 – 64.7%) and dental extractions (n = 11 – 64.7%). In addition, eight patients (47%) presented shoulder and knee pain. Among male patients (n = 13) the MED age was 42.5 years (IQR 24-54.8) and the bleeding score MED was 13 (IQR 8-17.8). The most common bleeding events occurring were: bleeding from the oral cavity (10 – 76.9%), epistaxis (8 – 61.5%), cutaneous bleeding (7 – 53.8%), dental extractions (7 – 53.8%), and other types of bleeding (7 – 53.8%). Shoulder pain was related by five patients (38.5%). Based on the clinical hemorrhagic profile of patients, it was found a statistical difference (p = 0.044) between male and female regarding epistaxis (61.5% in male and 29.4% female patients). This study was limited by aggregation of patients in one group independently of VWD type and no patients were genotyped. Furthermore, this is an ongoing project and the number of participants needs to be increased to draw conclusions. We thank our participants, Fapemig, Hemominas, and the CGSH of the Ministry of Health.

https://doi.org/10.1016/j.htct.2022.09.480

ANÁLISE DE EPISÓDIOS HEMORRÁGICOS EM PACIENTES COM HEMOFILIA A E INIBIDORES APÓS NOVA TERAPIA EM UM HEMOCENTRO DO ESTADO DO CEARÁ

AIEL Matos, TO Rebouças, AKSL Sobreira, JA Silva, LEM Carvalho, AM Marinho, NM Beserra, FLN Benevides, CB Barreira, CLB Mesquita

Centro de Hematologia e Hemoterapia do Ceará (Hemoce), Fortaleza, CE, Brasil

Objetivo: Analisar a incidência dos episódios hemorrágicos após terapia com anticorpo monoclonal. **Material e método:** Pesquisa quantitativa, retrospectiva, transversal realizada no período de outubro de 2020 a junho de 2022. Foram analisadas a taxa de sangramento no período de 12 meses anterior a nova terapia e o período após o uso do Emicizumabe.Foram incluídos no estudo os pacientes que apresentaram falha terapêutica de Imunotolerância e que foram aprovados na consulta multiprofissional para nova modalidade de tratamento. Os pacientes foram enumerados para garantir o sigilo das informações. **Resultados:** Analisados 08 pacientes que iniciaram a profilaxia com emicizumabe em outubro de 2021. Dos pacientes participantes do estudo, 6 (75%) apresentaram inibidores de alta titulação. Quatro (50%) pacientes são crianças com idade entre 07 a 11 anos, os outros variam entre 20 a 26 anos. Quatro residem em Fortaleza, dois em Iguatu e dois em Sobral. A nova terapia iniciou em outubro de 2021. O paciente 1 teve 04 episódios de sangramentos traumáticos, sendo três musculares (hematoma em coxa D, edema em panturrilha E e hematoma em região axilar E) e um articular (Cotovelo D) no intervalo de 12 meses antes e após a nova terapia apresentou 01 sangramento muscular de origem traumática com boa resposta ao tratamento após dose única de Fator VIIa. O paciente 2 apresentou dois sangramentos traumáticos, um articular (Cotovelo E) e um muscular (coxa D) anterior a mudança de tratamento. Após a nova terapia não apresentou nenhum sangramento. O paciente 3 apresentou dois sangramentos articulares (cotovelo D) e (Falange D) ambos de origem traumática anterior à mudança de tratamento. Após a mudança terapia não apresentou nenhum sangramento. O paciente 4 apresentou dois sangramentos traumáticos articulares (Cotovelo E e quadril D) anterior a mudança de tratamento e após o novo tratamento não apresentou nenhum sangramento. Paciente 5, apresentou dois sangramentos articulares em tornozelo D, antes da mudança de tratamento e nenhum sangramento após o uso. O paciente 6, apresentou 5 sangramentos em articulação alvo (cotovelo E) antes da terapia e após, teve um sangramento articular em Cotovelo E, em outro momento, referiu dor em Tornozelo E que depois de realizar ressonância não evidenciou sangramento, apenas artropatia crônica.O paciente 7, apresentou dois sangramentos articulares em (Cotovelo E) antes da nova terapia, após a nova terapia apresentou um sangramento traumático em Joelho E, após atividade física. O paciente 8, apresentou um sangramento articular em ombro E antes da nova terapia e após a nova não apresentou nenhum sangramento **Discussão:** A taxas de sangramento antes eram em média de 2,5 sangramentos e mediana de 2. Após a nova terapia essas