MT2013-31:Allogeneic Hematopoietic Cell Transplantation for Inherited Metabolic Disorders and Severe Osteopetrosis following Conditioning with Busulfan (Therapeutic Drug Monitoring), Fludarabine +/- ATG

Status: Recruiting

Eligibility Criteria

Sex: All
Age: up to 55 Years old
This study is NOT accepting healthy volunteers

Inclusion Criteria:

• 0 through 55 years of age
• Adequate graft available
• Adequate organ function
• Eligible Diseases:
• Mucopolysaccharidosis Disorders:
• MPS IH (Hurler syndrome)
• MPS II (Hunter syndrome) if the patient has no or minimal evidence of symptomatic neurologic disease but is expected to have a neurologic phenotype
• MPS VI (Maroteaux-Lamy syndrome)
• MPS VII (Sly syndrome)
• Glycoprotein Metabolic Disorders:
• Alpha mannosidosis
• Fucosidosis
• Aspartylglucosaminuria
• Sphingolipidoses and Recessive Leukodystrophies:
• Globoid cell leukodystrophy
• Metachromatic leukodystrophy
• Niemann-Pick B patients (sphingomyelin deficiency)
• Niemann-Pick C subtype 2
• Peroxisomal Disorders:
• Adrenoleukodystrophy with cerebral involvement
• Zellweger syndrome
• Neonatal Adrenoleukodystrophy
• Infantile Refsum disease
• Acyl-CoA-Oxidase Deficiency
• D-Bifunctional enzyme deficiency
• Multifunctional enzyme deficiency
• Alpha-methylacyl-CoA Racmase Deficiency (AMACRD)
• Mitochondrial Neurogastrointestingal Encephalopathy (MNGIE)
• Severe Osteopetrosis (OP)
• Hereditary Leukoencephalopathy with axonal spheroids (HDLS; CSF1R mutation)
• Other Inherited Metabolic Disorders (IMD): Patients will also be considered who have other life-threatening, rare lysosomal, peroxisomal or other similar inherited disorders characterized by white matter disease or other neurologic manifestations for which there is rationale that transplantation would be of benefit, such as certain patients with Wolman's disease, GM1 gangliosidosis, I-cell disease, Tay-Sachs disease, Sandhoff disease or others.
• Voluntary written consent

Exclusion Criteria:

• Pregnancy
•menstruating females must have a negative serum or urine pregnancy test within 14 days of study treatment start
• Prior myeloablative chemotherapy exposure within 4 months of the start of conditioning on this protocol (patients excluded for this reason may be eligible for other institutional protocols)
• Uncontrolled bacterial, fungal or viral infections including HIV (including active infection with Aspergillus or other mold within 30 days)

Conditions & Interventions

Interventions:
Biological: Stem Cell Transplantation, Drug: IMD Preparative Regimen, Drug: Osteopetrosis Only Preparative Regimen, Drug: Osteopetrosis Haploidentical Only Preparative Regimen, Drug: cALD SR-A (Standard-Risk, Regimen A), Drug: cALD SR-B (Standard-Risk, Regimen B), Drug: cALD HR-D (High-Risk, Regimen C), Drug: cALD HR-D (High-Risk, Regimen D)
Conditions:
Mucopolysaccharidosis Disorders, Hurler Syndrome, Hunter Syndrome, Maroteaux Lamy Syndrome, Sly Syndrome, Alpha-Mannosidosis, Fucosidosis, Aspartylglucosaminuria, Glycoprotein Metabolic Disorders, Sphingolipidoses, Recessive Leukodystrophies, Globoid Cell Leukodystrophy, Metachromatic Leukodystrophy, Niemann-Pick B, Niemann-Pick C Subtype 2, Sphingomyelin Deficiency, Peroxisomal Disorders, Adrenoleukodystrophy With Cerebral Involvement, Zellweger Syndrome, Neonatal Adrenoleukodystrophy, Infantile Refsum Disease, Acyl-CoA Oxidase Deficiency, D-Bifunctional Enzyme Deficiency, Multifunctional Enzyme Deficiency, Alpha-methylacyl-CoA Racmase Deficiency, Mitochondrial Neurogastrointestingal Encephalopathy, Severe Osteopetrosis, Hereditary Leukoencephalopathy With Axonal Spheroids (HDLS, CSF1R Mutation), Inherited Metabolic Disorders
Keywords:
Clinics and Surgery Center (CSC), allogeneic hematopoietic cell transplantation, bone marrow transplantation, IMD, AMACRD, MNGIE, HDLS, OP, ALD

More Information

Description: To evaluate the ability to achieve high-level donor hematopoietic engraftment (defined as neutrophil recovery by Day +42 post-transplant and â‰¥ 80% donor cells on the myeloid fraction of peripheral blood at Day +100 post-transplant) using related and unrelated BM, PBSC, or UCB grafts following a reduced intensity conditioning regimen based on targeted-exposure busulfan, fludarabine +/- serotherapy in patients with inherited metabolic disorders and severe osteopetrosis.
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Phase: Phase 2

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