

Index

A

Adipose-derived MSCS, 88
Age of onset, 4
Alemtuzumab, 43, 146
Animal models, 178
Anticonvulsants, 62
Antidepressants, 61
Anti-inflammatory therapy, 117
Antioxidants, 158, 160
Arachidonic acid, 111
Astrogliosis, 4
Autoimmune, 3
Azathioprine, 43

B

B-cell, 142
Biological role, 72
Biosynthetic pathway, 73
B-lymphocytes, 132
Bone marrow mesenchymal stem cells, 86

C

Cannabinoid drugs, 63
Central canal, 93
Challenges, 39
Children versus adults, 41
Chronic pain, 53
Clinical characteristics, 41
Clinical studies, 133
CNS neural stem cell pools, 92
Copolymer-1, 143
Corticosteroids, 164
Cost of illness, 17

Cuprizone model, 176
Current therapeutic strategies, 47
Current therapies, 143
Cyclooxygenases, 113

D

Daclizumab, 43
Demyelination, 59
Depression, 56
Diagnosis, 55
Dimethyl fumarate, 43, 144, 145
Drug development, 47
Dysaesthetic extremity pain, 58

E

EAE model, 174
Embryonic stem cells, 90
Endogenous opioids, 125
Endogenous stem cell niches, 91
Endometrial stem cells, 89
Endorphins, 126
Enkephalins, 127
Epidemiological, 21
Epidemiology, 54
Etiology, 54, 125
European multiple sclerosis platform, 19
European register for multiple sclerosis, 26

F

Fingolimod, 43, 144, 145
First-line immunomodulatory
therapy, 42, 43
Flow cytometry, 140

Functional studies, 8
 Future developments, 63
 Future directions, 47
 Future treatment, 53, 78

G

GA, 143
 Gender differences, 56
 Genetic atlas, 7
 Genetic component, 4
 Genetics, 3, 77
 Genome-wide association, 3, 6
 Genotype-phenotype, 10
 Germinal areas, 94
 Glatiramer acetate, 43, 144
 Growth factors, 128
 GWAS, 3, 5

H

Hematopoietic stem cells, 87
 HRQoL, 17
 Human pathology, 178
 Human Wharton's jelly MSCS, 88

I

IL7R, 6, 9
 Immunomodulatory therapy, 42, 163
 Immunomonitoring, 139
 IMSGC, 6
 In silico analysis, 78
 In vivo models, 173
 Induced pluripotent stem cells, 90
 Inflammation, 60
 Inflammatory mediators, 158
 Interferon β , 143, 144
 IPMSSG, 47

L

Leukocyte antigen locus, 5
 Lipoxigenases, 113
 Lymphocyte, 139, 142

M

McDonald criteria, 18
 Mechanisms, 156
 MHC, 3, 5
 Migraine, 58
 Mitochondrial dysfunction, 157
 Mitoxantrone, 43
 Molecular basis, 8
 MS barometer, 19, 25
 MS risk, 75
 mTOR, 63
 Multiple Sclerosis in Europe, 17, 20
 Multiple sclerosis, 3, 17, 39, 53, 71, 85,
 111, 125, 139, 155, 173
 Myelin, 4

N

Naltrexone, 125
 Natalizumab, 43, 144, 147
 Neural stem cells, 89
 Neurodegeneration, 59
 Neuroinflammation, 111
 Neuropathic pain, 53
 Neuroprotection, 162
 Neurostimulation, 63
 NSAIDs, 118, 119

O

Ocrelizumab, 43
 Olfactory ensheathing cells, 94
 Opioid growth factor, 129

Opportunities, 39
Oxidative stress, 155

P

Painful tonic spasms, 58
Paroxysmal pain, 58
Pathogenesis, 111
Pathogenic mechanisms, 140, 141
Pathophysiology, 57, 155
Pathway analysis, 9
Pediatric patients, 39
Pediatric-onset MS, 48
Pharmacological management, 60
Pharmacological treatments, 17
PNS progenitors, 95
Preclinical studies, 129
Prostaglandins, 113

Q

Quality of life, 17

R

Rapamycin, 63
Reactive gliosis, 60
Reactive nitrogen species, 157
Reactive oxygen species, 157
Receptor mediation, 127, 128
Relapsing-remitting, 4
Rituximab, 43

S

Schwann cells, 94
Secondary progressive, 4
Second-line immunomodulatory
therapy, 43, 44
Sex differences, 59

SGZ of the hippocampus, 93
Single-nucleotide
polymorphism, 6
Socioeconomic, 21, 25
Spasticity pain, 58
Spermatogonia stem cells, 91
Spinal cord, 93
Stem cell, 85
Sun exposure, 76
SVZ of lateral ventricles, 92
Symptoms, 56
Systems biology, 9

T

T-cell, 142
Teriflunomide, 43, 144, 145
TH17, 142
Theiler's murine encephalomyelitis
virus, 177
Therapeutic intervention, 53
Therapies, 39
Therapy response, 147
Therapy, 155
Thromboxanes, 113
T-lymphocytes, 132
Treatment of relapses, 46
Treatment, 42
Treatments, 23
TREG, 142
Trigeminal neuralgia, 58

U

Umbilical cord MSCS, 87

V

Vitamin D, 71