

(Theme: Contemporary Explorations in Neuroimmunology to Treat Human Diseases)

Abstract

Neuroimmunology is a field combining neuroscience, the study of the nervous system, and immunology, the study of the immune system. A long-term goal of this rapidly developing research area is to further develop our understanding of the pathology of certain neurological diseases, some of which have no clear etiology. This conference serves as an International forum to bring you closer to key professionals to support your mutual understanding of the field, accelerate your research in the field and to enable you to contribute to the ultimate care of patients in this very important way. The scientific sessions of Neuroimmunology-2015 will focus on the neuroimmunological diseases, its wide therapeutic aspects including the role of stem cells, Biomarkers, immunoglobulin therapy along with psychiatric and sleep disorders which are most common outcomes of neuroimmunological imbalance. Thus this study can change the fundamental comprehension of neuroimmunological diseases from the past ten years and also widened the treatment aspects of the neuroimmune disorders.

For more details please visit - <http://neuroimmunology.omicsgroup.com/>

Introduction

Burn-induced organ dysfunction using vagus nerve stimulation has been found to attenuate organ and serum cytokine levels. Burns generally induce abacterial cytokine generation and perhaps parasympathetic stimulation after burns would decrease cardiodepressive mediator generation. Multiple groups have produced experimental evidence that support proinflammatory cytokine production being the central element of the burn-induced stress response. Still other groups have shown that vagus nerve signaling has a prominent impact on various inflammatory pathologies. These studies have laid the groundwork for inquiries that vagus nerve stimulation may influence postburn immunological responses and thus can ultimately be used to limit organ damage and failure from burn induced stress.

Basic understanding of neuroimmunological diseases has changed significantly during the last ten years. New data broadening the understanding of new treatment concepts has been obtained for a large number of neuroimmunological diseases, none more so than multiple sclerosis, since many efforts have been undertaken recently to clarify the complexity of pathomechanisms of this disease. Accumulating evidence from animal studies suggests that some aspects of depression and fatigue in MS may be linked to inflammatory markers.

Research into the link between smell, depressive behavior, and autoimmunity has turned up interesting findings including the facts that inflammation is common in all of the diseases analyzed, depressive symptoms appear early in the course of most diseases, smell impairment is also apparent early in the development of neurological conditions, and all of the diseases involved the amygdale and hippocampus. Better understanding of how the immune system functions and what factors contribute to responses are being heavily investigated along with the aforementioned coincidences.

Neuroimmunology is also an important topic to consider during the design of neural implants. Neural implants are being used to treat many diseases, and it is key that their design and surface chemistry do not elicit an immune response.

San Francisco is the home to various universities doing active research in the field of Neuroimmunology like, Stanford university, Harvard university, etc. It bears a branch of National Multiple sclerosis society. It contains a total of 1,358 hospitals working on Neurology & Neurosurgery. Hence its considered to be one of the finest places for a conference on Neuroimmunology.

Conference Highlights

- Neuroimmunology
- Neuro-immune Interaction
- Neurophysiology/Epilepsy
- Autoimmune Neuropathies
- Neuroimmunological Infectious Diseases
- Maternal Cytokines in Neurodevelopmental Disorders
- Neurological disorders
- Neurodegenerative Diseases
- Blood Brain Barrier and Diseases
- Neurovirology
- Neuroimmunogenetics
- Neuropathology
- Neuroinflammation
- Psychoneuroimmunology
- Stem Cells for Neurological Disorder Treatments
- Neuropharmacology and Therapeutics
- Biomarkers in Neurodegeneration
- Future Aspects

Target Audience

Practicing neurologists, neurosurgeons in training and other healthcare professionals interested in the latest advances and techniques in the field. Another segment of target audience is neuro pharmaceutical industrialists, Clinical organizations, Societies , Educational institutes.

Neuroimmunology - A Statistical Study

Universities

A total of 350 campus & online accredited graduate degree programs & graduate schools in the field of biological & life sciences, subject of neurosciences, specialty of neuroscience at the certificate & doctorate & masters levels in all locations from all types of institutions [1]. 195 universities working on Neuroimmunology and related topics specifically in USA . Major Univeristies in San Francisco include Department of Neurology & Neurological Sciences, UCSF Pediatric Multiple Sclerosis Center, Epilepsy Program: California Pacific Medical Center: Pacific Campus, Neuromuscular Disease Program: California Pacific Medical Center: Pacific Campus, Sandler Neuroscience Center, Department of Neuroscience , University of san Francisco .

Hospitals

About 1,358 hospitals in Neurology & Neurosurgery with at least 332 in-patients using the drugs and equipment's for neurodegenerative diseases treatment and diagonosis in USA [2]. A total of 6 Hospitals in San Francisco which are namely, Epilepsy Program: California Pacific

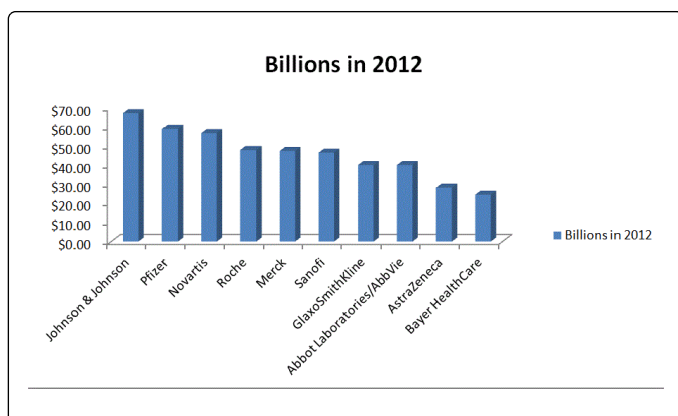
Medical Center: Pacific Campus, San Francisco General Hospital: Jay Cheryl A MD, San Francisco General Hospital: Messing Robert O MD, San Francisco General Hospital: Gale Matthew Kir MD, San Francisco General Hospital: Spudich Serena S MD, San Francisco VA Medical Center-Neurology [3].

Members currently working on the topic

28 board and advisory members from The International Society of Neuroimmunology, 16 executive council members belonging to American Neurological Association, 4 principal investigators and 30 other professionals in Dr. Josep Dalmau Neuroimmunology Program, 29 honorary members and 16 staff members from the British Society for Immunology are currently estimated people working specifically in this field. However, other societies related to neurology or brain studies can also be included. There are two major societies in San Francisco which are , San Francisco telsa society with 5 Board Members and San Francisco Neurological society with 18 board members and lot other active members are actively working on Neuroimmunology based research.

Study on Products Manufactured

There are a total Number Of 149 Neurology Drugs & Nervous System Drugs approved by FDA and manufactured worldwide [4,5].



In 2012, the top 10 pharmaceutical companies (by sales):

Manufacturer	2012	2011
Johnson & Johnson	\$67.2 Billion	\$65 Billion
Pfizer	\$58.9 Billion	\$65.3 Billion
Novartis	\$56.7 Billion	\$58.6 Billion
Roche	\$47.8 Billion	\$45.2 Billion
Merck	\$47.3 Billion	\$48 Billion
Sanofi	\$46.4 Billion	\$44.3 Billion
GlaxoSmithKline	\$39.9 Billion	\$41.4 Billion
Abbot Laboratories/AbbVie	\$39.9 Billion	\$38.9 Billion
AstraZeneca	\$28 Billion	\$33.6 Billion

Bayer HealthCare	\$24.3 Billion	\$22.5 Billion
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Neuroimmunology Market Study

About 1.7 million cases of TBI (Traumatic Brain Injury, Neuroimmunological disorder) occur in the United States every year. Approximately 5.3 million people live with a disability caused by TBI in the United States alone. Deaths from head injuries account for 34 percent of all traumatic deaths. Beginning at age 30, the mortality risk after head injury begins to increase. Persons age 60 and older have the highest death rate after TBI, primarily because of falls, which have a rising incidence in this age group [6].

Decker Weiss, NMD, FASA predicted that in the coming years, addressing neuroinflammation will be the fastest-growing sector of the natural-medicine industry. As health-care providers become increasingly aware of the value of testing and supplemental nutrition to rebuild healthy immune and inflammatory function, the market will explode. Working at the "core" of issues – that is, resolving a patient's presenting clinical symptoms in a way that helps prevent future life-threatening issues – sounds almost too good to be true. But rest assured that it isn't – it's just the emerging science of neuroimmunology [7].

Conclusion

One of the most pressing challenges facing neuroimmunology is to understand how the immune system is involved in neurological disease. The ultimate goal of such research is to develop better treatments for devastating neurological conditions. While many questions remain to be answered, the influx of scientific minds into the study of neuroimmunology has already fueled tremendous progress and given hope to the millions of people who suffer from diseases of the brain and nervous system [8].

References

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