Alzheimer's disease remains a challenge in management. With nearly 8 million sufferers from this condition in the seven major markets of the world and anticipated increases in the future. Considerable research is in progress to understand the pathomechanism of the disease and find a cure. The only drugs approved currently are acetylcholinesterase inhibitors but they do not correct the basic pathology of the disease, beta amyloid deposits and neurofibrillary tangles. Several new approaches emphasize neuroprotection as well.

Early diagnosis of Alzheimer's disease is an important first step in management. Several biomarkers in cerebrospinal fluid, blood and urine can detect the disease. They provide a valuable aid to the clinical examination and neuropsychological testing which are the main diagnostic methods supplemented by brain imaging. Genotyping, particularly of ApoE gene alleles is also useful in the evaluation of cases and planning management.

The current management of Alzheimer's disease is reviewed and it involves a multidisciplinary approach. Acetylcholinesterase inhibitors are mostly a symptomatic treatment but some claims are made about a neuroprotective effect. Currently the only approved neuroprotective therapy in is memantine. Management of these patients also require neuroleptics for aggressive behavior and antidepressants. There is an emphasis on early detection at the stage of mild cognitive impairment and early institution of neuroprotective measures. The value of mental exercise in delaying the onset of Alzheimer's disease is being recognized.

Research in Alzheimer's disease still aims at elucidating the basic pathomechanisms. Animal models are important for research, particularly in testing some of the potential therapeutic approaches. There is considerable research in progress at the various centers, some of which is funded by the National Institute of Aging of the National Institutes of Health.

Over 300 different compounds are at various stages of development for the treatment of Alzheimer's disease. These are classified and described. There are non-pharmacological approaches such as vagal nerve stimulation and cerebrospinal fluid shunting, which are in clinical trials. As of August 2016, the number of clinical trials of AD on US Government clinical trials web site was over 1900. Selected 226 clinical trials are listed, of which 158 are still in progress and 68 were discontinued for various reasons.

Alzheimer's disease market in the seven major markets is analyzed for the year 2015. Several new therapies are expected to be in the market and the shares of various types of approaches are estimated for the future up to the year 2025. As a background to the markets, pharmacoeconomic aspects of care of Alzheimer disease patients and patterns of practice are reviewed in the seven major markets.

Profiles of 144 companies involved in developing diagnostics and therapeutics for Alzheimer's disease are presented along with 92 collaborations. The bibliography contains over 910 publications that are cited in the report. The report is supplemented with 46 tables and 21 figures.

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