

Dr. John O' Brien (med school) receives grant from the National Multiple Sclerosis Society

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MULTIPLE SCLEROSIS STUDY MOVES AHEAD AT UCSD

The question of why multiple sclerosis is ten times more common in temperate parts of the world than in the tropics will be investigated by Dr. John S. O'Brien under a \$39,624 research grant from the National Multiple Sclerosis Society.

The announcement of the award was made by Dr. Clifford Grobstein, Dean of the School of Medicine, UCSD, where Dr. O'Brien is Associate Professor of Neurosciences. During the 18-month period covered by the grant, Dr. O'Brien will test his theory that the higher incidence of multiple sclerosis in the cooler zones of the earth may be attributable to the effects of temperature on the chemical contents of certain nervous tissues.

The award was presented to Dr. O'Brien by Mr. Harold D. Cornell, Board Chairman of the Society's San Diego County chapter, in brief ceremonies attended by Mr. Ben D. Griffith, the chapter's executive director, Dr. Grobstein, and a few invited guests.

Multiple sclerosis (MS) is most common in areas with cold weather during at least a part of the year. In large countries, like the United States, where the population is spread through regions of wide temperature range, there is more MS in the colder northern areas than in the south. Recent mass population migrations, however, make it difficult to determine in this country whether it is climate or heredity which is the contributing factor. A clue to the answer is found in evidence from Israel and South Africa which suggests that the difference may, in fact, be due to climate rather than heredity. MS in Israel is five to ten times higher among immigrants from northern Europe than it is among immigrants from the Orient, North Africa, and southern Europe. Also, among native-born Israelis, the rate is very low regardless of the parent's country of origin.

Still other evidence points to climate as a cause rather than heredity. Northern European Jews who arrived in Israel during childhood show a low MS rate which is close to that of the native born.

"These findings," Dr. O'Brien said, "suggest an environmental factor in association with multiple sclerosis which is regionally dependent and is most operative during the formative years.

Multiple sclerosis is a disease of the central nervous system--the body's communication network. In MS, the nerves, which carry impulses throughout the body, are attacked in such a way that their myelin coating begins to disintegrate and be replaced with scar tissue. This interferes with the efficiency of the circuitry and nerve impulses are increasingly blocked by the scarred areas. This leads to progressive impairment of such functions as walking, talking, seeing, hearing, and eating and can result in death.

The myelin coating on the nerves is comprised, among other things, of several different fats. Dr. O'Brien and his colleagues theorize that environmental temperature may change the proportion of these fats in the myelin of a growing child. If such a change does occur, it is possible that when the child reaches adulthood the altered proportions of these fats might lessen his myelin's capacity to resist disintegration.

To test this thesis, Dr. O'Brien's group will use the Society's grant to continue two parallel investigations in which all factors except temperature are the same for both programs. By periodic comparison of myelin fats thus produced, Dr. O'Brien hopes to determine whether there are differences present which might affect stability under stress.

"Our primary goal," Dr. O'Brien said, "will be that of establishing the possible role of such differences in altering susceptibility to a demyelinating disease such as multiple sclerosis."

He added that even if these anticipated results were not obtained, progress might nonetheless be made. "Much continuing research by others is based on various implications of the differences in MS incidence at various latitudes. There are those who feel that increased sunshine might cut the MS rate. Still others think that improved sanitation such as is frequently found in temperate areas may be a factor in actually increasing the hazard of MS.

"If we can establish a firm link between the MS rate and outside temperature, we could conceivably save others much fruitless work. This, in itself, would be a valuable result. If we don't find this link, we will at least have cast doubt on one interpretation of how geography can affect MS."

The role of the MS Society is a most important one according to Ben Griffith, San Diego chapter's executive director. Griffith, who once played "Red" in the old "Our Gang" comedies and was later pastor at six California churches, said there are over 3,000 MS victims in San Diego and Imperial Counties and at least 500,000 known sufferers in the United States. The disease most frequently strikes young adults between the ages of 20 and 40--the critical career and family-growth years.

"San Diegan's may take pride," Griffith said, "in the work done by their chapter in support of programs such as Dr. O'Brien's. In 1968, San Diego raised \$14,000 and forwarded it to the national offices and they, in turn, will invest \$198,760 in MS research in San Diego County during 1969."

Since its inception in 1946, The National Multiple Sclerosis Society has invested almost \$9-million in MS research. It is the only nationwide voluntary health agency dedicated to finding more effective methods of treatment and ultimate prevention of multiple sclerosis.

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