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TITLE: The University of Chicago Neurofibromatosis Program

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14. ABSTRACT

The University of Chicago participated in the development of a clinical consortium to develop treatment protocols for patients with NF1. Four general areas of interest were delineated and study groups were formed to discuss each area. Potential treatment options were discussed and 4 treatment protocols were developed. A consortium structure was developed and a grant to support the consortium and the protocols was submitted.

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Introduction:

The purpose of the award was to: 1.) Develop a consortium of medical centers with special expertise in the treatment of neurofibromatosis-1 (NF1), 2.) Identify clinical problems in patients with NF1 that might be amenable to therapeutic intervention, 3.) Develop strategies for the treatment of those clinical problems, and 4.) Submit protocols for clinical trials for treatments for patients with NF1.

Body:

The medical centers met in Maryland in November of 2005 to introduce themselves, the nature of their institutions, and the NF patient populations that we serve. We also presented potential clinical trials that were based on the experience and expertise of the individual institutions. I presented an examination of Psychosocial Problems in Teenagers and Young Adults with NF1. After all of the presentations, the group agreed that there were at least 4 general areas that had been identified that were potentially amenable to therapeutic intervention: Plexiform and cutaneous neurofibromas, malignant peripheral nerve sheath tumors, optic gliomas, and neurocognitive problems. Study groups from all of the institutions were formed to discuss each general area and to develop one or more clinical trials for each of the identified clinical problems. Dr. Giola (Children's National medical Center) and myself were chosen as co-chairs of the neurocognitive study group. Over the course of 5 months we convened regular conference calls to development treatment protocols for learning disabilities in children with NF1. As part of this process, Dr. Giola and I attended a consensus conference in Los Angeles with international leaders in the field of NF1 and learning disabilities and discussed potential treatments for learning problems as well as methods of assessing learning problems and the effects of medication. The neurocognitive study group then developed specific recommendations for the assessment of learning disabilities and their treatment using Lovastatin. The choice of Lovastatin was based on experimental studies in the mouse heterozygote model which showed improved memory and performance in mice after short term treatment of the animals with Lovastatin. Our recommendations were presented to the entire consortium in April and a decision was made to proceed with the development of a phase II clinical trial of Lovastatin in children, age 10-17, with NF1. The neurocognitive study group developed a written protocol for a phase II trial. The primary burden of the development of the trial fell on Drs. Giola and Acosta (National Children's Medical Center), Walters (NIH), and Tonsgard (U of Chicago). As part of this process, we also presented our ideas to a symposium that was held in conjunction with the annual Neurofibromatosis research meeting in June. The clinical trial was then written and submitted as part of the consortium's application.

Key Research Accomplishments:

1. Identification of clinical problems in NF1 that might be amenable to treatment.
2. Development of collaborative study groups to discuss general clinical areas.
3. Development of clinical protocols.
4. Development of a national consortium for clinical trials for NF1

Reportable Outcomes: None

Conclusions:

The clinical problems of patients with NF1 will only be solved by the collaborative efforts of centers with substantial experience with NF1 as well as familiarity with the basic scientific developments in NF1. We have identified at least 4 general areas that are amenable to therapeutic intervention and have developed treatment protocols.

References: None

Appendices: None