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SPECIAL ARTICLE

The Anatomy Research Group (GIA) 10 years after its founding: Past, present and future

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"It is important to point out that the most brilliant discoveries have been due, not to the knowledge of written logic, but to that vivid logic that each individual possesses in their spirit, with which ideas are tilled…"
Santiago Ramón y Cajal
Spanish Neuropathologist

Scientific activity in medicine increases every year. In the United States of America, many medical schools offer undergraduate students opportunities to participate in research in different areas of clinical and basic medicine. These opportunities have increased and strengthened the activities related to medical research.[1-6] In Mexico, other Medical Schools, such as the Universidad Nacional Autónoma de México (UNAM) and the Benemérita Universidad Autónoma de Puebla (BUAP) have bachelor degree programs in biomedicine that are mainly oriented towards laboratory research (www.biomedicas.unam.mx; www.minerva.buap.mx).[7,8] At the Universidad Autónoma de Nuevo León (UANL), during the past 30 years, the School of Medicine has Student Research Groups in Medicine (GESTIMED) that focus on care and research in medicine (www.medicina.uanl.mx).[9]

In 2003, because of the interest of professors and students in developing original scientific activity, the Research Group in Anatomy (GIA) of the Department of Anatomy was established. In the years before its formation, the scientific activity of the department was isolated and characterized by individual efforts with little productivity with regard to publications. But thanks to the interest of undergraduate students and the firm support of Santos Guzman-López, Doctor of Medicine Head of the Department, the establishment and recognition of the group allowed strategic development and organized growth with a clear objective: contributing to the solution of problems of different medical specialties through the development of knowledge in morphology.

The activities of the group are related to the promotion and dissemination of science and the scientific method with a focus on humanity and are based on the values of honesty, respect and confidence. The group´s mission is to contribute to the formation of human resources that can assist in the development of the institution and in the solution of problems in society, as well as generate useful knowledge for human development.

The GIA is currently composed of an enthusiastic group of professors and undergraduate and graduate students of the School of Medicine. We are convinced of the transforming power of permanent training, continuous education, and teamwork. The GIA is organized as a general research group with subgroups in areas of interest and common problems. To date, the subgroups of the GIA are: *GIA-Bones and Joints*, *GIA-Peripheral Nerves*, *GIA-Neurosciences*, and *GIA-Vascular*. The group has 64 students (from 2nd to 12th semesters) integrated and organized in different research lines of the

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Department of Human Anatomy. It currently has 42 publications in peer-reviewed journals, 1 international and 6 national awards in research; 6 of its members have done research clerkships abroad; 120 oral presentations in basic and clinical science have been offered in congresses, and financial resources have been obtained through local and international grants; 4 of its professors are members of the National Researchers System (SNI), and one is the editor of an international medical journal.

There are 6 research lines in the Department of Human Anatomy that have generated national and international publications, presentations in congresses and associations with other departments and services, both internal as well as external to the School of Medicine. The main lines of research are: 1) Morphological studies in anatomical specimens for use in minimally invasive surgical approaches; 2) morphological and functional study of peripheral nerve injury in murine models; 3) morphological and functional study of global and focal cerebral ischemia in animal models for pathophysiological study and the application of neuroprotective agents; 4) the study of the adaptive morphological response of vascular grafts and its regulation; 5) use of stem cells as treatment after central nervous system damage in a mouse model; and 6) morphological changes in aging. It is important to mention that much of the research is designed, proposed, and developed by students, always with the support of a professor as advisor in the subject area and from a methodological point of view.

It is noteworthy to mention that the students themselves have an internal coordination that allows members to support new members in the initial guidance for the conduction of protocols, motivating their implementation. This way, solutions have been developed for the immense amount of work required for the operation of the group. This has been achieved thanks to the contribution of department professors and external consultants in internal training, and the support provided for attendance to conferences and courses at other research institutions.

This year, the GIA celebrates its tenth anniversary with the presentation of the First Research Symposium on Anatomy entitled "Contributions to the Clinical Practice of Anatomical Research" at the XXVII National Congress of Medical Research conducted in the city of Monterrey, Mexico from October 10 to 12, 2013. Faculty advisors from each line of research as well as student members of the group participated in this symposium. The objective was to demonstrate the involvement of undergraduates in biomedical research and encourage students to join groups and research projects.

We are confident that the coming years will be marked by strong and sustained growth, with the maturation of all processes, agreements, and joint projects with researchers from other departments and services, and from national and foreign institutions, with the integration of multidisciplinary teams to better understand, expand, and diversify scientific knowledge in various areas of the biomedical sciences.

Conflicts of interest

The authors have no conflicts of interest to declare.

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