



From the old to the new: The EURACAN Project

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Abstract: The management of patients with thymic malignancy requires continuous multidisciplinary expertise at any step of the disease. A dramatic improvement in our knowledge has occurred in the last few years, through the development of databases, translational research programs, and clinical trials. Access to innovative strategies represents a major challenge, as there is a lack of funding for clinical research in rare cancers and their rarity precludes the design of robust clinical trials that could lead to specific approval of drugs. In this context, patient-centered initiatives, such as the establishment of dedicated networks, are warranted.

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The management of patients with thymic malignancy requires continuous multidisciplinary expertise at any step of the disease. A dramatic improvement in our knowledge has occurred in the last few years, through the development of databases, translational research programs, and clinical trials. Access to innovative strategies represents a major challenge, as there is a lack of funding for clinical research in rare cancers and their rarity precludes the design of robust clinical trials that could lead to specific approval of drugs. In this context, patient-centered initiatives, such as the establishment of dedicated networks, are warranted. International societies, such as ITMIG (International Thymic Malignancy Interest Group) provide infrastructure for global collaboration (1), and there are many advantages to having strong regional groups working on the same issues.

In Europe, the recent establishment of the European Reference Network EURACAN provides an infrastructure of healthcare providers with high level of multidisciplinary expertise for the diagnosis, and the management and follow-up of patients with rare cancers, including rare thoracic tumors; the objective is to increase the quality of care, while building collaboration to develop clinical and translational research projects (2).

National networks

In France, RYTHMIC (Réseau tumeurs THYMIques et Cancer; www.rythmic.org) is a nationwide network for thymic malignancies, which was appointed in 2012 by the French National Cancer Institute, as part of its rare cancer program (3). Since then, the management of all patients diagnosed with thymic tumors has been discussed on a bi-monthly basis at a national multidisciplinary tumor board (MTB), which is organized twice a month basis using a web-based conferencing system. Decision-making is based on consensual recommendations that were originally established based on available evidence, and are updated and approved each year by all members of the network. A prospective database of all patients is hosted by the French Thoracic Cancer Intergroup. Overall, more than 2,000 patients have been enrolled, demonstrating the feasibility of a national MTB for thymic malignancies, that, besides ensuring patients an equal access to highly specialized management, provides with a comprehensive tool to monitor dedicated actions to improve the management of patients, and enroll patients in clinical trials. Similar thymoma-dedicated networks are now being implemented in other European countries, such as Spain and Italy (the TYME collaborative group) (4).

Outside Europe, The Chinese Alliance for Research in Thymomas (ChART) and the Japanese Association for Research on the Thymus (JART) are national groups aiming at building and analyzing retrospective and prospective databases of thymic tumors cases (5,6).

International networks

The International Thymic Malignancies Interest Group (www.itmig.org) was created in 2010, and was endorsed and supported by the most representative medical and surgical societies around the globe (1). The mission of ITMIG is to promote the advancement of clinical and basic science related to thymic malignancies. It provides infrastructure for international cooperation, trials, maintains close collaboration with other related organizations, and facilitates the spread of knowledge about thymic neoplasms. The achievements of ITMIG include (I) the development of standard definitions based on multidisciplinary consensus, regarding outcome measures, handling of surgical specimens, staging, surgical techniques, radiotherapy, and chemotherapy; (II) a significant contribution to the WHO histopathological classification update; and (III) the establishment of an international, retrospective database of nearly 10,000 cases that has been a resource for descriptive studies, mostly driven by US-based investigators, as well as for the development of the 2018 TNM-based staging system as a backbone for the survival analyses of specific groups of patients (7). A prospective database linked to a virtual tumor bank is underway.

European networks

Research on thymic malignancies has historically been driven by thoracic surgery societies, including the European Society of Thoracic Surgery (ESTS) and the European Association of Cardio-thoracic Surgeons (EACTS) for thymic tumours; especially, the ESTS published multiple analyses on a retrospective cohort of patients (8), and is currently establishing a prospective database. The European Society for Medical Oncology recently published the first multidisciplinary, comprehensive clinical practice guidelines for the management of mesothelioma and thymic tumors, integrating all the aspects of the management of the disease, from the diagnosis to the follow-up of patients (9).

Within the European Reference Network EURACAN, the rare thoracic tumor domain—referred as to G8 domain—handles a network of 20+ healthcare providers;

the objectives of EURACAN include the updating and the assessment of current guidelines, the development of educational programs, dissemination and communication with patients groups, and the establishment of research projects, from the diagnosis workup of the disease to the therapeutic strategies. Achieving the highest quality of patient care is the main objective of EURACAN, and the RYTHMIC model provides some practical tools to be implemented at the European level. The European network also provides an infrastructure for collaboration with diagnosis and pharmaceutical companies; one example may be the opening of dedicated cohorts in basket studies assessing new drugs, for which the network allows a better identification of patients and facilitates the recruitment in the trials (clinicaltrials.gov NCT03012620).

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