Joint Bone Spine 84 (2017) 125–128

Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com/en

Editorial

How to favour efficient networking of teams working in the field of rare diseases? Experience of the CeRéMAI reference centre for auto-inflammatory diseases

ARTICLE INFO

Keywords:
Reference centre
Auto-inflammatory diseases
Intranet
Network
Rare diseases
France

1. Introduction

According to the European definition, a rare disease affects less than 1 in 2000 patients. In 2005, the French government paid national priority to rare diseases by establishing reference centres. The goal of establishing the reference centres was to ensure fair access to diagnosis and quality of care for all patients and to coordinate care, teaching and research within each specific field. To achieve this objective, structures of scientific and clinical excellence were identified. Over 130 reference centres have been designated [1]. The centres include multidisciplinary highly specialized medical teams and are evaluated every 5 years. Reference centres are networked within a specialized care context, including regional and interregional (competence) centres. The competence centres aim to ensure care proximity for patients. These centres are now networked at the EU level through the newly launched concept of European reference networks (ERN) to serve as research and knowledge centres.

Numerous issues arise when reference centres are multisite. One issue is coordination, because the distance does not facilitate communication and close interactions between all staff members. Another issue is the sharing of documents, data and tasks. The most difficult issue is probably the collection of the medical activities of the centre to allow for regular evaluation and both qualitative and quantitative improvement. Moreover, complementarity is indispensable for optimized performance. This concept involves geographical localisation of the different teams, specific skills and know-how as well as multidisciplinarity to provide full and relevant support to medical networks and patient associations.

2. The specific challenges of auto-inflammatory diseases

Systemic auto-inflammatory diseases (SAIDs) represent an increasing number of inflammatory conditions related to deregulation of innate immunity [2]. The concept of auto-inflammation has originated from both the underlying mechanism and the clinical presentation of four rare “historical” hereditary recurrent fevers [3]. The two best-known fevers are familial Mediterranean fever (FMF), caused by recessive mutations in the Mediterranean fever gene (*MEFV*) [4,5] and cryopyrin–associated periodic syndrome (CAPS) caused by dominant mutations in nucleotide-binding oligomerization domain (NOD)-like receptor family, pyrin domain-containing 3 (NLRP3) [6]. FMF is the most frequent recurrent fever and is characterized by short (6–72 h) episodes of fever, chills, and malaise accompanied by polyserositis (peritonitis, pleuritis, synovial effusion, and myalgia) [7]. The inflammatory process in SAIDs is mainly driven by excessive interleukin-1 (IL-1) secretion activated after a pro-inflammatory signal triggering the formation of the NLRP3 inflammasome [8]. Considerable therapeutic benefits have been achieved with IL-1 blockers in a number of these disorders, but the response to treatment may vary greatly among patients and disease phenotypes [9]. The definition of SAIDs has been progressively extended to other Mendelian conditions, including, recently, rare defects of the interferon signalling pathway and complex conditions integrating auto-inflammation, autoimmunity and immunodeficiency [10].

One of the challenges in the future will be to reach consensus on frontiers of the SAID concept. Indeed, recognizing patients with SAIDs is difficult because the clinical spectrum of one disease may range from very mild inflammatory episodes to severe chronic disease. Moreover, the diseases feature an important overlap of clinical symptoms. Therefore, patients may experience pain for years before they are referred for expert advice.

A diagnostic score and specific classification criteria are needed to accelerate patient referral and promote clinical research. This important issue will be better addressed by sharing clinical registries such as the national database for rare diseases (BNDMR) [11], EUROFEVER [12] and the Juvenile Idiopathic arthritis Registry (JIR cohort, [12]) and by extending the availability of next-generation sequencing.

http://dx.doi.org/10.1016/j.jbspin.2016.11.008

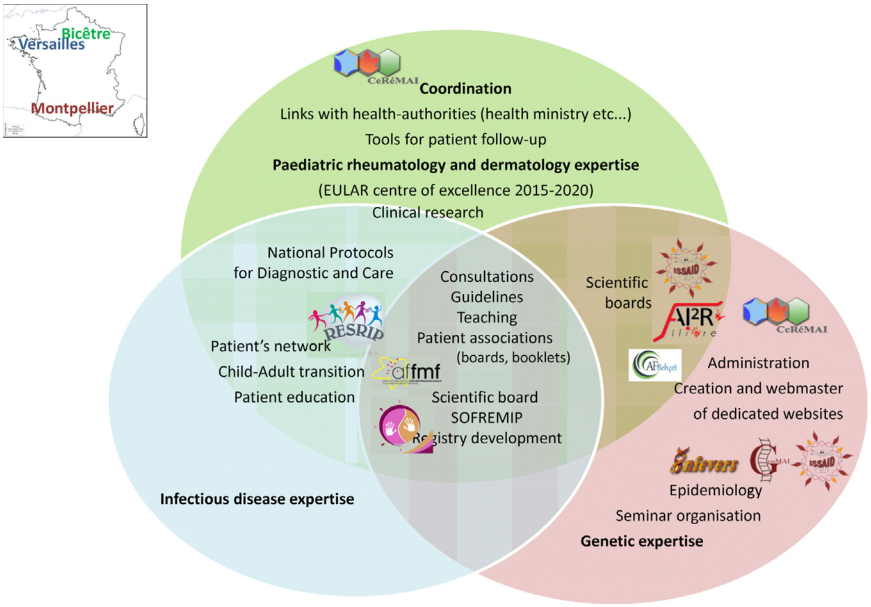

Fig. 1. Complementarities between the three teams of the CeRéMAI reference centre. The location of the three teams of CeRéMAI is approximately represented on the map of France in the upper left. The main expertise and tasks of the teams are indicated in the corresponding circles (Bicêtre: green, leader: IKP; Versailles: blue, leader: VH; Montpellier: mauve, leader: IT). The intersections of the circles show common actions. The main tasks of the Bicêtre team are reference centre coordination, relationships with heath authorities, and a big consultation. This team was recently designated as a European League Against Rheumatism (EULAR) centre of expertise. The Versailles team has developed privileged relationships with patient associations, organized the child–adult care transition, and developed several tools for patient education. The Montpellier team has created several French and International dedicated Websites and derived epidemiological studies from the included data. This group is responsible for Website administration, maintenance and evolution; generates the CeRéMAI activity reports; and organizes the reference centre meetings and seminars.

3. CeRéMAI, the French multisite reference centre for auto-inflammatory diseases

The reference centre for auto-inflammatory diseases (CeRéMAI, [13]) was designated in 2007 to help resolve the specific issues related to the SAIDs highlighted above. The centre integrates three teams and has recognized 18 competence centres, mainly paediatric departments. It is included in the overall National (FAI2R, [14]), and European Rare Immunological and auTo-inflAmmatory diseases (RITA) networks. The medical staff includes 8 clinicians, with paramedical assistants (1 coordination secretary, 2 research assistants, 1 physical therapist, 1 patient education staff member, and 1 computer scientist). The main specificity of CeRéMAI is its national coverage and the complementarities of the three teams (Fig. 1) who cover all expertise necessary for patient care and for operational management and efficiency, especially through the creation of an Intranet tool.

4. The Intranet

To create a common, easily accessible resource for all the professionals of our reference centre, we created a Website combining

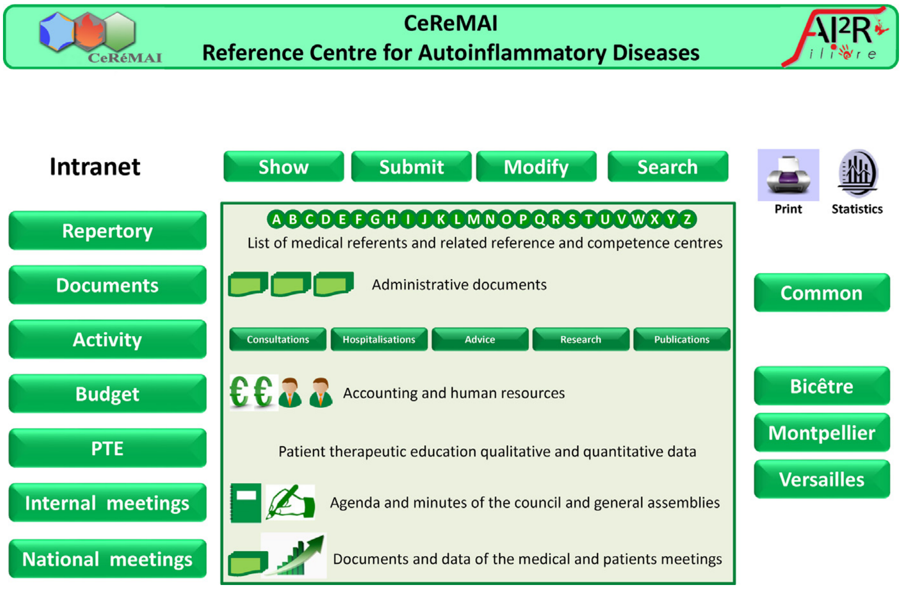

Fig. 2. Schematic architecture of the CeRéMAI Website Intranet. The menu is on the left. The content of each of the seven areas is summarized after the corresponding button. The four different modules "Show/Submit/Modify/Search" at the top of the page are used for most of the pages. All submitted documents can be stored in each team folder or in the common folder, or both. The button "Statistics" gives access to descriptive statistics (see Fig. 3). A screen shot of the Intranet is not provided because the content is entirely in French. PTE: patient therapeutical education.