

European Network for Gynaecological Rare Cancer research: From Concept to Cure

GYNOCARE – COST Action CA18117

Prof Jean Calleja-Agius

Scientific Session of the 6 Annual Malta Rare Disease Colloquium – 28/5/21



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Background

- Approximately 18.5 million women annually are affected by gynaecological cancer, from which approximately 50% are classified as rare cancers.
- Delayed diagnosis of patients suffering from rare gynaecological cancers leads to poor outcomes and contributes to a huge socio-economic burden.
- This field is lagging due to distinct scientific and technological challenges that gynaecological cancer research faces.
- Currently, the overall efforts for addressing these challenges are fragmented across different European countries (and beyond).

Table 1. Rare gynecological tumors *.

Site	Morphology	Malignancy
Vulva-Vagina	Epithelial	Paget's disease of the vulva Adenocarcinoma Other carcinomas Skin adnexal carcinoma
	Germ Cell	Yolk sac tumor and other types
Uterine cervix	Epithelial	Adenocarcinoma Carcinosarcoma
	Mixed	Adenosarcoma
Uterine corpus	Epithelial	Carcinosarcoma
	Mixed	Adenosarcoma
Fallopian tube	Germ Cell	Yolk sac tumor and other types
	Epithelial	Adenocarcinoma
Ovary	Mixed	Adenosarcoma
	Epithelial	Mucinous adenocarcinoma Clear cell adenocarcinoma Low-grade serous carcinoma Other carcinomas
	Sex cord-stromal	Adult granulosa cell tumor Juvenile granulosa cell tumor Sertoli-Leydig cell tumor Steroid cell tumor
	Mixed	Adenosarcoma
	Germ Cell	Dysgerminoma/Seminoma Yolk sac tumor Mixed germ cell tumor Embryonal carcinoma Choriocarcinoma, NOS Immature teratoma Gonadoblastoma
	Mesenchymal	Sarcomas eg leiomyosarcoma
All sites	Mesonephric (Wolffian system)	Wolffian tumor, Mesonephric carcinoma
	Neuroendocrine neoplasia	Neuroendocrine carcinomas and mixed neuroendocrine -non neuroendocrine carcinomas
	Haematolymphoid	Primary haematolymphoid tumors
Gestational trophoblastic disease	Trophoblastic	Choriocarcinoma
		Epithelioid trophoblastic tumor Placental site trophoblastic tumor

* Adapted from WHO classification of tumors Editorial Board. Female Genital Tumors. Lyon (France) IARC 2020 (WHO classification of tumors series, 5th ed.; Volume 4). <https://publications.iarc.fr/592>.



Aims of GYNOCARE

To create a unique network between key stakeholders covering distinct domains (from concept to cure):

- basic research on rare gynaecological cancer,
- biobanking,
- industrial dimension, legal and regulatory requirements for international trials and other research collaborative efforts

GYNOCARE focuses on:



- capacity-building on rare gynaecological cancer by connecting high-quality scientific communities in various disciplines, existing networks, policy-makers, industrial partners, and patient organisations across Europe and beyond;
- coordinating, and contributing to the development of a research roadmap dedicated to connect innovative basic research to harmonised biobanking for 'smarter' clinical trials;
- the development of a platform for sharing best practices, including funding roadmap and legal/ethical requirements, in gynaecological cancers – aiming to advice policy-makers and other key stakeholders;
- providing equal networking opportunities for early-stage researchers, and other talented young professionals.



Management Structure

- Start date of Action: 12/3/2019
- Science Officer: Dr Federica Ortelli (COST Office-Brussels)
- Administrative Officer: Ms Aldona Gembalik (COST Office-Brussels)
- Action Chair: Prof. Jean Calleja Agius (Malta)
- Vice Chair: Prof. David Faraggi (Israel)
- GH Institution: University of Malta (Malta)
- Project Support Officer: Ms Diandra Borg-Meli

Memorandum of Understanding (MoU) –available as pdf on <https://www.cost.eu/actions/CA18117/#tabs|Name:parties>

- End date of Action: 11/3/2023



Full list of Countries (25)

- Belgium
- Italy
- Ireland
- France
- Greece
- Hungary
- Israel
- Moldova
- Montenegro
- Netherlands
- Norway
- Spain
- Switzerland
- United Kingdom

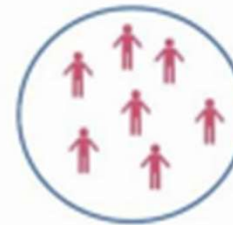
Inclusiveness Target Countries (ITC)

- Malta
- Bulgaria
- Croatia
- North Macedonia
- Turkey
- Portugal
- Romania
- Poland
- Bosnia and Herzegovina
- Slovenia
- Montenegro

Full list of members (60+) available on: <https://www.cost.eu/actions/CA18117/#tabs|Name:management-committee>



GYNO CARE



WG1

WG2

WG3

WG4

WG5



WG1- Basic and Translational research on rare gynaecological cancer












- a) to initiate new collaborations with basic, translational and clinical researchers and to further expand our network to connect these stakeholders;
- b) to define strategic research lines upon which all relevant stakeholders agree on, including e.g. patient representatives and industrial advisors;
- c) to coordinate the development of a funding strategy to support the future research.

Prof C. Simon Herrington
Cancer Research UK, Edinburgh Centre



Review

Could MicroRNAs Be Useful Tools to Improve the Diagnosis and Treatment of Rare Gynecological Cancers? A Brief Overview

Riccardo Di Fiore ^{1,2,*} , Sherif Suleiman ¹, Francesca Pentimalli ³ , Sharon A. O'Toole ⁴ , John J. O'Leary ⁵, Mark P. Ward ⁵, Neil T. Conlon ⁶ , Maja Sabol ⁷ , Petar Ozretić ⁷ , Ayse Elif Erson-Bensan ⁸ , Nicholas Reed ⁹, Antonio Giordano ^{2,10}, C. Simon Herrington ¹¹  and Jean Calleja-Agius ^{1,*} 



WG2 - Biobanking

Coordination of bridging the gap between biobanks and translational research projects by:

- a) establishing a virtual network from the existing European biobanks for rare gynaecological malignancies (using a virtual platform that will allow the real time visualisation of the samples) ;
- b) integrating the biobanking concept within the clinical trials and translational research projects within this field.

Dr Sharon O'Toole

Trinity College Dublin, St James's Cancer Institute, Ireland

WG 2 Meetings



▶ WG 2 – 23/2/2021

‘Setting up a biobank specific to rare gynae cancers’ - Prof Dr James P Beirne, Department of Gynaecological Oncology, Trinity St. James Cancer Institute, St. James’ Hospital, Dublin, Ireland

‘BBMRI-ERIC’ and BBMRI.mt - Prof Alex Felice from the Biobank at University of Malta, & Malta BioBank/BBMRI.mt

▶ WG2 – 30/3/2021

‘Setting up the trial on Rare Neoplasms of Gynaecological Origin (RaNGO)’ – Dr Marcia Hall - Lead Clinician for Research and Development at Mount Vernon Cancer Centre (MVCC), Hillingdon Hospital, UK and Wexham Park Hospital, UK

‘European Cancer Registration, using the Maltese Cancer Registry as a case in point’ – Ms Rita Micallef, Malta National Cancer Register Manager, Department of Health Information and Research, Malta

WG3 - Legal and regulatory issues

- a) to harmonise the legal requirements requested from the different EU countries and non- EU countries within Europe;
- b) to develop protocols, agreements, contracts, SOPs and other relevant legal/operational documents related to the network considering all the legal peculiarities of the different countries so that countries specific appendices can be omitted.

WG Lead: Dr Olga Tzortzatou

Biomedical Research Foundation of the Academy of Athens, Greece

WG4 -Industrial Dimension (Pharma industry and SMEs)



- a) To raise awareness for collaboration, alternative approaches, and synergistic development of diagnostic and treatment options in the rare cancers by networking with the companies;
- b) Coordination of networking and consulting to identify the needs of the pharma industry to invest resources in the rare diseases;
- c) Survey the key research focuses in pharmaceutical companies in order to seek alignment with basic and translational research actions;
- d) Coordination of collaboration between translational research and industry.

WG Lead: Prof Antonio Giordano

Department of Medical Biotechnologies, University of Siena, Italy;

**Sbarro Institute for Cancer Research and Molecular Medicine, Center for
Biotechnology, College of Science and Technology, Temple University, Philadelphia, USA**

WG5 - Clinical trials on rare gynaecological cancer



- a) discussion of new clinical trial related activities i.e. trials, translational research, biobanking, etc;

- a) creation of specific spaces for the interaction of researchers with other stakeholders like patient's advocacy, industry, governmental bodies, etc.

Way forward



- Call for new members to join, especially from new countries
- Host institutions for STSM
- Attendance and presentation of GYNOCARE related work at international conferences
- More collaborative publications, including a book on rare gynae cancers
- Website: www.gynocare.net

Article

GYNOCCARE Update: Modern Strategies to Improve Diagnosis and Treatment of Rare Gynecologic Tumors—Current Challenges and Future Directions

Riccardo Di Fiore ^{1,2} , Sherif Suleiman ¹ , Bridget Ellul ³ , Sharon A. O'Toole ⁴ , Charles Savona-Ventura ⁵, Ana Felix ⁶ , Valerio Napolioni ⁷ , Neil T. Conlon ⁸ , Ilker Kahramanoglu ⁹, Miriam J. Azzopardi ¹⁰, Miriam Dalmas ¹¹, Neville Calleja ¹⁰, Mark R. Brincat ¹², Yves Muscat-Baron ¹², Maja Sabol ¹³ , Vera Dimitrievska ¹⁴ , Angel Yordanov ¹⁵ , Mariela Vasileva-Slaveva ¹⁶, Kristelle von Brockdorff ¹⁷, Rachel A. Micallef ¹⁷, Paul Kubelac ^{18,19}, Patriciu Achimas-Cadariu ^{19,20}, Catalin Vlad ^{19,21}, Olga Tzortzatou ²², Robert Poka ²³ , Antonio Giordano ^{2,24}, Alex Felice ²⁵, Nicholas Reed ²⁶, C. Simon Herrington ²⁷ , David Faraggi ²⁸  and Jean Calleja-Agius ^{1,*}