

## Tentative Outline

### Special/Thematic Issue for the journal "Current Respiratory Medicine Reviews"

#### **Title: New diagnostic and prognostic strategies for malignant mesothelioma**

*Section Editor's Name: Dr. Veronica Filetti*

*Co-Guest Editor: Dr. Venerando Rapisarda, Dr. Ermanno Vitale*

- **Scope of the Thematic Issue:**

It is now well established that malignant mesothelioma is causally correlated with exposure to asbestos fibers that only became widely recognised as carcinogenic in the second half of the last century. However, recent studies have also verified the correlation between exposure to 'naturally occurring asbestos' (NOA) fibers and this neoplasm. Among the NOA the most common are erionite, winchite, magnesio-riebeckite, richterite, Libby asbestos, antigorite and fluoro-edenite fibers. Several studies have correlated exposure to the fibers of these minerals with the onset of malignant mesothelioma. Malignant mesothelioma carries poor outcomes, given its low rates of response to treatments and it is often diagnosed at an advanced stage due to the lack of diagnostic and prognostic biomarkers. Despite advances in chemotherapy, radiation therapy and surgical management of malignant mesothelioma, the median survival remains less than 12 months. In 2020, the number of new diagnoses of malignant mesothelioma was approximately 30870 with 26278 deaths. The incidence and mortality of this neoplasm in Europe cover 45%. The current standard for the diagnosis of pleural biopsies is difficult and requires histopathological and immunohistochemistry techniques when invasion is not clearly demonstrated based on the histology. To date, the most relevant prognostic parameters for malignant mesothelioma are represented by the histological subtype, gender, and age at diagnosis. In these last years, alternative epigenetic targets, gene-specific modifications, and the use of bioinformatics tools are gaining much importance in the management of various pathologies, including cancer. In particular, recent studies demonstrated that modulation of microRNA expression levels play an important role in malignant mesothelioma biology and microRNAs have the potential to be considered as good non-invasive diagnostic and prognostic biomarkers and therapeutic targets for cancer. This special issue would update the programs of prevention and new biomarkers discovery in the field of malignant mesothelioma.

**Keywords:** malignant mesothelioma, environmental exposure, asbestos, diagnostic, prognostic, bioinformatics, microRNA

#### **Sub-topics:**

- Role of diagnostic and prognostic biomarkers in medicine;
- Innovative techniques to improve the biomarkers' studies;
- Mechanisms of action of asbestiform fibers inhalation;
- Association between asbestiform fibers exposure and the onset of respiratory diseases.

#### **Schedule:**

- Thematic issue submission deadline: 31st Dec 2023

#### **Details of Sectional Editor:**

**Section Editor Name:** Veronica Filetti

**Affiliation:** Department of Clinical and Experimental Medicine, Occupational Medicine, University of Catania, Occupational Medicine; Via Santa Sofia 78, 95123, Catania, Italy

**Email:** [verofiletti@gmail.com](mailto:verofiletti@gmail.com)

**Co-Guest Editors:**

**1. Name:** Venerando Rapisarda

**Affiliation:** Department of Clinical and Experimental Medicine, Occupational Medicine, University of Catania, Occupational Medicine; Via Santa Sofia 78, 95123, Catania, Italy

**Email:** [venerando.rapisarda@unict.it](mailto:venerando.rapisarda@unict.it)

**2. Name:** Ermanno Vitale

**Affiliation:** Department of Clinical and Experimental Medicine, Occupational Medicine, University of Catania, Occupational Medicine; Via Santa Sofia 78, 95123, Catania, Italy

**Email:** [ermannovitale@phd.unict.it](mailto:ermannovitale@phd.unict.it)