

Project title:**PROSPECTIVE COHORT STUDY OF PATIENTS WITH PULMONARY HYPERTENSION: STUDY OF DIAGNOSTIC AND PROGNOSTIC MARKERS****Acronym/working title:****OPTION****Principal Investigator**

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Registration number of the Ethical approval

Comitato Etico Interaziendale di Novara N° 058/2023

Project summary

In recent years, it has discovered that cells can communicate with other cells through the release of microvesicles (MVs) and they seem to play an important role in the pathogenesis of vasculopathies, by modulating cell-cell communication and appear to play a role of biomarkers in the pulmonary hypertension.

The primary objective of this study is to evaluate the possible role of microvesicles in the pathogenesis and diagnosis of IAP associated with connective tissue diseases.

The secondary objectives will instead be the creation of a prospective cohort of patients affected by PAH and SSc, with and without PAH, for the identification of any further biological markers of pulmonary vascular involvement in the course of SSc and the isolation of microvesicles obtained from patients with SSc-associated PAH, for use in in vitro challenge testing of endothelial cells and smooth muscle cells (VSMC).

The study will have a duration of 5 years characterized by periodic follow-ups to follow the evolution of the disease over time and the characterization of biomarkers as previously described.

To date, the study is not able to guarantee participants direct benefits, but the information collected could be useful for improving the degree of knowledge regarding pulmonary hypertension and the identification and development of possible biomarkers.

Duration of Study*Total duration of the study: 5 years**Study start: 31/03/2023**Study end: 30/03/2028***Total number of participants involved:**

200

Samples collected:

- ✓ Buffy coat
- ✓ Plasma EDTA
- ✓ Plasma sodium-citrate
- ✓ Plasma lithium-heparin
- ✓ Urine
- ✓ Saliva
- ✓ PBMC