The DETECT study: A two-stage, prospective, observational, cohort study in scleroderma patients to evaluate screening tests and the incidence of pulmonary arterial hypertension and pulmonary hypertension

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Primary objectives

- Pulmonary manifestations of systemic sclerosis (SSc) are a leading cause of mortality and late stage disease morbidity.
- 10–20% of SSc patients develop pulmonary arterial hypertension (PAH).
- Median survival of SSc patients untreated with PAH is particularly poor, estimated at 10–15 years following diagnosis.
- PAH associated with SSc is typically diagnosed late, when other SSc symptoms are well established.
- Early detection of PAH associated with SSc is considered essential to improve survival among SSc patients.
- The standard confirmatory test for PAH and more broadly pulmonary hypertension (PH) is right heart catheterization (RHC).
- The objective of the DETECT study is to improve the management of PAH and PH in SSc by validating simple, cost-effective, accessible and reliable screening tools.

Introduction and rationale

- To investigate the association between potential prognostic factors and the development of PAH/PH during the follow-up period.
- To determine the association of potential prognostic or risk factors and the development of PAH/PH during the follow-up period.
- To evaluate the incidence of PAH and PH in a cohort of SSc patients.
- To determine the association of potential prognostic or risk factors and the development of PAH/PH during the follow-up period.

Methods

Study design and timeline

- The DETECT study, which started in 2008, is a prospective, observational cohort in two stages:
  - Baseline Year 1 Year 2 Year 3 or earlier*
  - Screening Baseline Year 1 Year 2 Year 3 or earlier*
  - RHC**

Screening Non-invasive assessments Inclusion Criteria

- Male or female patients aged ≥18 years
- Patients with SSc as diagnosed by the American College of Rheumatology (ACR) criteria
- Including patients with other connective tissue diseases who, in parallel, meet the ACR criteria for SSc.
- SSc disease duration ≥3 years from onset of first non-Raynaud's symptom.
- Dying capacity of the lung for carbon monoxide ≤60% of predicted.
- Main exclusion criteria
  - PH confirmed by RHC before enrollment, i.e. mean pulmonary arterial pressure ≥25 mmHg at rest or ≥30 mmHg during exercise, independent of pulmonary capillary wedge pressure.
  - RHC within the 12 months before enrollment.
  - Use of endothelin receptor antagonists, phosphodiesterase type 5 inhibitors, prostanooids, or experimental PAH/PH therapies ≤6 weeks prior to enrollment and/or for a total of >6 weeks during the 12 months prior to enrollment.
  - Forced vital capacity <40% predicted.
  - Pulmonary arterial hypertension (PAH) associated with other connective tissue diseases.
  - Previous diagnosis of clinically relevant left heart disease.
  - Renal insufficiency.
  - Presence of other conditions associated with PAH.
  - Pregnancy.
  - Patients unlikely to be available for annual follow up over an anticipated 3 years of study.

Participants countries (number of sites) in the DETECT study

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Statistical methodology and analyses

- Analyses of data from the cross-sectional stage will include:
  - Description of demographic and baseline disease characteristics of patients.
  - Evaluation of screening tests (individually or in combination) versus RHC.
  - Receiver operating characteristic curve analysis (sensitivity, specificity, optimal rule-in and rule-out values and predictive values).
  - Multivariable logistic regression analysis.
  - Analyses of data from the longitudinal follow-up will include:
  - Estimation of the cumulative proportion of patients with confirmed PAH or PH following 3 years (or earlier in cases of withdrawal) according to the time to event.
  - Multivariable logistic regression analysis to investigate the association of potential prognostic risk factors and PAH/PH occurrence.

Visit and assessment schedule

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References


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All authors are employees of Actelion Pharmaceuticals Ltd, Allschwil, Switzerland.

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Disclaimer

The results of this poster have not been presented elsewhere and this is the first time that any results have been shared at this conference.

What is the application process to participate in the clinical trial?

- In general, recruitment of study sites has been completed Siles fulfilling all criteria and having a high patient enrollment potential may still, however, be considered for participation.
- For more information please contact Fabrice.Kiefer@actelion.com