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Research Profile: Pulmonary hypertension remains a difficult to treat condition with average survival times of 5-7 years from diagnosis. In addition to reduced survival times, patients also often suffer from severe dyspnea, fatigue and poor quality of life as well as limited exercise capacity and frequent hospitalizations for right heart failure. The pulmonary hypertension research group focuses on clinical trials involving novel therapies as well as observational studies looking at risk factors and markers or prognosis. Randomized controlled clinical trials, multi-center observational studies and biobanking studies sponsored by both the NIH and industry form a significant part of our portfolio. Single center studies, often with significant input from trainees, are also commonly performed and have included:

- An analysis of the association between stimulant use and unexplained pulmonary arterial hypertension through case-control studies (both survey based and chart-review)
- Survival and outcome studies in PH, including studies looking at imaging predictors of outcomes (MRI, echo) as well as other studies looking at both hemodynamic and biomarker predictors of survival and need for transplant. These studies are conducted primarily using an existing database, supplemented with additional data points +/- occasional study specific measures (additional MRI images, for example)
- Hemodynamic changes after the initiation of novel PH therapies
- Exercise outcomes in PH including changes after the initiation of PH therapies
- Quality of life and symptom scores
- Outcomes in portopulmonary hypertension

Techniques: clinical trials; exercise testing, hemodynamics and imaging studies; descriptive reports, patient reported outcomes and case-control studies

Selected Recent Publications:

Chin KM, Bartolome S, Miller K, Blair C, Gillies H, Torres F. Does Treatment Response to Ambrisentan Vary by Pulmonary Arterial Hypertension Severity? Implications for Clinicians and for the Design of Future Clinical Trials. Int J Clin Pract. 2014;68:568-577.

Chin KM, Ruggiero R, Bartolome SD, Velez-Martinez M, Darsaklis K, Kingman M, Harden S, Torres F. Long-term Therapy with Oral Treprostinil in PAH Failed to Lead to Improvement in Important Physiologic Measures: Results from a Single Center. Pulmonary Circulation 2015;5:513-520. PMID 26401252

Darsaklis K, Dickson ME, Cornwell W 3rd, Ayers CR, Torres F, Chin KM, Matulevicius S. Right atrial emptying fraction non-invasively predicts mortality in pulmonary hypertension. Int J Cardiovasc Imaging. 2016; 32:1121-30.PMID:27076226

Snigdha Jain MD[1]*, Subramaniyam Rajan MD[2]*, Anita Holtz MD[3], Sachin Gupta MD[4], Danae Fields[2], Adetoun Sodimu MPH[2], Fernando Torres MD[2], Sonja Bartolome MD[2], Kelly Chin MD, MSCS[2.] Association of stimulant use with IPAH: a case-control study. Oral presentation and abstract: ATS 2017