**Autosomal Dominant Polycystic Kidney Disease (ADPKD)**

- Most common hereditary kidney disease
- 4th leading cause of kidney failure
- Mutation of PKD1 or PKD2 gene
- Uncontrolled growth of fluid-filled cysts causes irreversible damage
- The only currently approved drug, Tolvaptan, is expensive and is associated with significant risk and potential side effects

**Study Aims**

- Create a national clinical trial network
- Test 400 patients using genetic and kidney volume based risk assessment tools, while evaluating the use of:
  - Next generation sequencing for genetic testing
  - 3D-ultrasound (US) for kidney volume measurement
- Pilot clinical trial on a promising repurposed drug (Salsalate) using the high risk patient cohort identified in Project 1.2

**Methods**

- Informed Consent
- Saliva Sample
- Questionnaires
- MRI
- Potential trial candidate

**PKD Study Centres**

- University Health Network – Toronto, ON
- St. Joseph’s Healthcare Hamilton – Hamilton, ON
- London Health Sciences Centre – London, ON
- Kingston General Hospital – Kingston, ON
- The Ottawa Hospital – Ottawa, ON
- Royal Victoria Hospital – Montreal, QC
- Centre de Recherches – Montreal, QC
- University of Alberta – Edmonton, AB
- Foothills Hospital – Calgary, AB
- St. Paul’s Hospital – Vancouver, BC

**Future Opportunities for Patient Engagement**

- Quarterly teleconference calls
- Feedback on trial design and consent for 2.1
- Contributors to future manuscripts and presentations
- Knowledge sharing

**Accomplishments to Date**

- 120 patients studied for 3D Ultrasound project, which is nearing completion
- ~100 patients enrolled for clinical trial network
- Web-based ADPKD questionnaires
- Preclinical animal studies supporting use of Salsalate in Project 2.1; manuscript submitted for publication
- Research Ethics Board (REB) approval for Salsalate clinical pharmacokinetic study in patients

**Project Timeline**

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<thead>
<tr>
<th>Project Aims</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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<tr>
<td>Preclinical testing completed</td>
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<td>Execute trial</td>
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<td>Develop protocol and consent for small Salsalate pilot trial</td>
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<td>Analyse, share results and knowledge</td>
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**Next Steps**

- Complete patient risk assessments from all study sites
- Analyze imaging to validate the use of 3D-US in ADPKD risk assessment
- Pilot study to examine the pharmacokinetics, safety, and tolerability of Salsalate in patients
- Potential use of Salsalate to reduce urine output in Tolvaptan-treated patients

**Website:** [http://www.cansolveckd.ca/research/theme-1/adpkd](http://www.cansolveckd.ca/research/theme-1/adpkd)