LIVER TRANSPLANTATION FOR CHOLANGIOCARCINOMA
- Incidence in US 1/100,000
- Prognosis poor
Liver Transplant for Cholangiocarcinoma

- Patients who are not surgical resection candidates AND/OR
- Have underlying liver disease (PSC) AND
- Meet highly selective criteria
Liver Transplant for Cholangiocarcinoma

- Protocols for liver transplantation for CCA primarily focus on unresectable peri-hilar CCA

- Patients are eligible for standard MELD exception points if the center has a United Network for Organ Sharing (UNOS)-approved protocol

- Most protocols include: Neoadjuvant chemotherapy and staging laparotomy/laparoscopy
UW Protocol: Liver Transplantation for Peri-Hilar CCA

Age 18+ years

Must satisfy UNOS criteria for diagnosis of CCA:

- Malignant appearing peri-hilar stricture plus at least one of the following:
  - Malignant cytology or histology (not just dysplasia)
  - CA 19-9 > 100 U/mL (no cholangitis)
  - Polysomy by FISH
  - If a peri-hilar mass is present, it is not > 3cm in radial direction on cross-sectional imaging

The peri-hilar CCA is

Peri-Hilar CCA
UW Protocol: Liver Transplantation for Peri-Hilar CCA

- Negative metastatic work-up (Cross sectional imaging and EUS with node sampling)

- Patient must otherwise be a suitable LT candidate as per the standard UW LT evaluation criteria
UW Protocol: Liver Transplantation for Peri-Hilar CCA

Exclusion Criteria

- Mass lesion on cross-sectional imaging > 3 cm in radial direction
- Intrahepatic CCA
- Metastatic disease outside the liver
- Prior biliary resection or surgery with disruption of the tumor plane
- Trans-peritoneal biopsy of the primary tumor (very high risk for tumor recurrence post-LT)
UW Protocol: Liver Transplantation for Peri-Hilar CCA Neoadjuvant Therapy

- External beam radiation therapy
- 5FU/Leucovorin
- Capecitabine
UW Protocol: Liver Transplantation for Peri-Hilar CCA

As patient nears time for liver transplant

Staging laparotomy/laparoscopy

• Assess for peritoneal or nodal metastatic disease that would preclude complete resection of the tumor

• If staging lap is negative, then patient is cleared for allograft offers
UW Protocol: Liver Transplantation for Peri-Hilar CCA

Drop-Out Criteria

• Evidence of metastatic disease on interval imaging
• Positive node on EUS
• Positive staging lap
• Disease progression on treatment protocol
• Fails transplant evaluation
PATIENT SURVIVAL AFTER START OF THERAPY
1993 – 2016 (INTENTION TO TREAT)

% Years after start of therapy

0 1 2 3 4 5

79 ± 3%
57 ± 3%
51 ± 3%

UW Medicine
PATIENT SURVIVAL AFTER TRANSPLANTATION
1993 – 2016
N=181

Years after transplantation

91 ± 2%
77 ± 3%
69 ± 4%

%