ATHN DATA SUMMIT 2016

ATHN 5 Hepatitis C Treatment Outcomes Study

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Hepatitis C Virus (HCV) Outcomes after Treatment with Direct Acting Agents (DAA) in Patients with Bleeding Disorders

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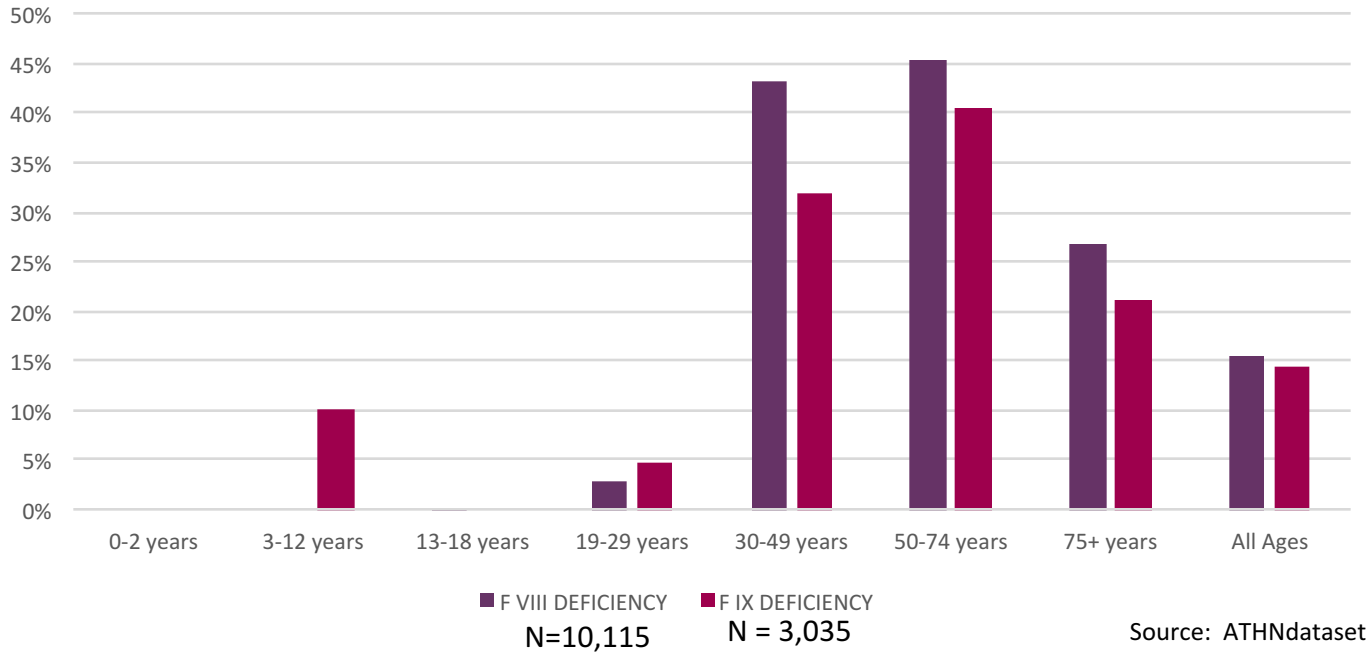
Hepatitis C (Ab+) Patients by Age Group

Hemophilia Patients Carried the Virus 20+ Years!



N=10,115

N = 3,035

Source: ATHNdataset June 30, 2016

HCV: A Leading Cause of Mortality in Males with Severe Hemophilia A

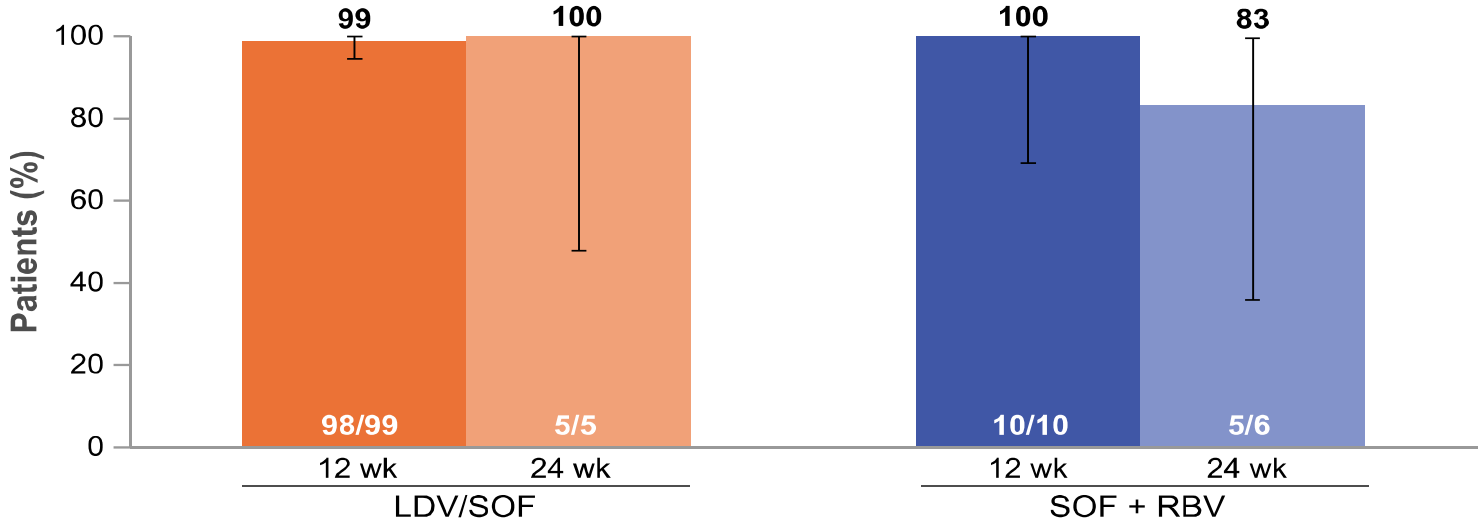
1998-2011 - 432 Deaths Among 7,386 males

Cause of Death Category	With Inhibitors		Without Inhibitors	
	N	(%)	N	(%)
Hemophilia related	20	41.7	46	12.0
HIV related	5	10.4	71	18.5
Liver Disease related	8	16.7	123	**32.0**
Suicide	0	0	5	1.3
Other	10	20.8	104	27.1
Unknown	5	10.4	35	9.1

Source: Walsh CE, Soucie JM, Miller CH, Am J Hematol 2015

New Direct Acting Agents are Breakthrough

Sustained Virologic Response Achieved (SVR12- Harvoni study)



Source: Walsh C, AASLD, 2015, #1034

- 1 patient with HCV GT 1 was lost to follow-up following Week 4 visit
- 1/6 (17%) with GT 3 relapsed (patient had cirrhosis)

ATHN 5 Background and Rationale

- Prevalence of HCV in patients with bleeding disorders
  - The leading cause of mortality in the US Hemophilia population is due to HCV infection
- Recent Availability of Direct Acting Agents (DAA)
  - Epclusa® (sofosbuvir/velpatasvir); Daklinza ® (daclatasvir); Exviera ® (dasabuvir); Harvoni ® (sofosbuvir/ledipasvir); Olysio ® (simeprevir); Sovaldi ® (sofosbuvir); Viekirax ®(ombitasvir/paritaprevir/ritonavir)
- Recent MASAC recommendations

ATHN 5 Background and Rationale

- No systematic method to analyze HCV infection outcomes in patients with bleeding disorders
  - May be different from general population studied in DAA pivotal trials
- This study will focus on the gaps in evidence regarding treatment of HCV in bleeding disorders patients and generate data leading to more informed treatment decisions

ATHN 5 Study Design

This is a multi-center, longitudinal, observational, retrospective study to assess sustained virologic response (>95%) for 2 years post-DAA therapy (SVR-2 years) in bleeding disorders patients with HCV

ATHN 5 Primary Objective

- To determine the rate of sustained virologic response (SVR) **2 years post-treatment with new oral DAA regimens** given as daily oral therapy in patients with bleeding disorders.
  - To measure SVR (reinfection) for 2 years post initiation of therapy for HCV infection in each treatment group, with SVR defined as undetectable viral load by PCR to under 50 IU/mL
  - To explore differences in SVR-2year based on genotype, stage of liver disease at start of therapy, treatment regimen, age, race, ethnicity, bleeding order severity, and presence of inhibitor

ATHN 5 Secondary Objectives

- To measure mortality, liver disease progression and requirement for liver transplantation
- To determine the number of patients that discontinue treatment due to side effects
- To determine the number of patients that discontinue treatment due to side effects
- To describe factors that may influence long-term treatment outcomes

ATHN 5 Study Population

The study will study approximately 300 male and female patients with hemophilia or other bleeding disorders who meet the eligibility criteria and are receiving care from one of the participating HTC centers.

- Opt-in to ATHNdataset key for retrospective design

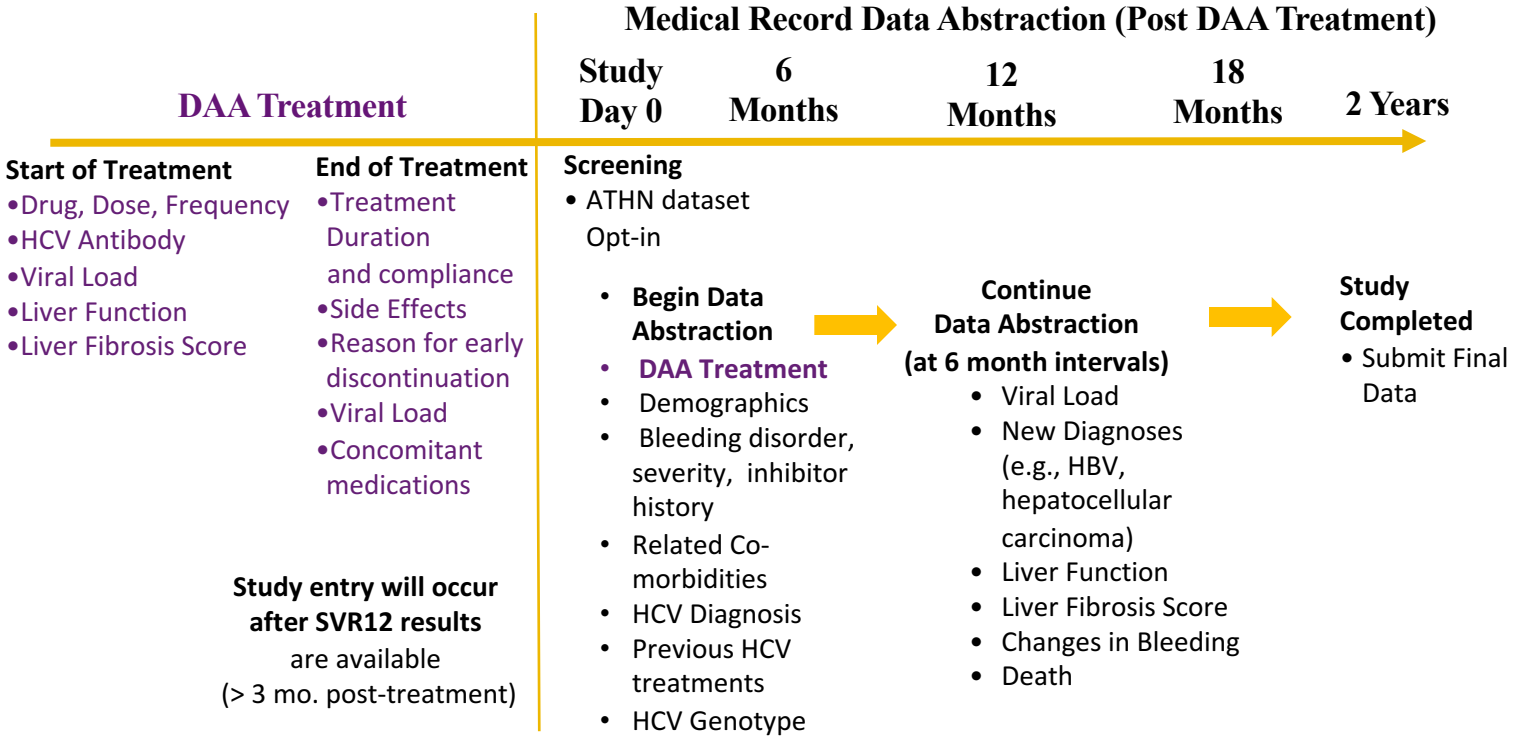
ATHN 5 Inclusion Criteria

- Started a DAA regimen for treatment of active HCV infection.
  - Completed DAA with HCV Viral Load results available from 12 weeks after the last dose
- Diagnosed with a congenital bleeding disorder
  - Including Hemophilia A or B (F-VIII or F-IX Deficiency), Von Willebrand Disease, rare bleeding disorder, or platelet disorder
- Age > 19 years
- Opted in to the ATHNdataset

ATHN 5 Exclusion Criteria

- Patients diagnosed with liver cancer (i.e., Hepatocellular carcinoma, HCC or liver cell carcinoma of any type)
- History of liver transplant
- Lack of access to complete medical records for treatment for HCV infection and related co-morbidities

ATHN 5: Study Flow Chart



ATHN 5 Project Status

- Steering Committee convened September 12, 2016
- Site Selection underway
  - 15 sites expressed interest via electronic survey
  - Contractual agreement template available
- Draft Protocol being finalized for SC approval (by end of October)
  - Data elements have been identified
- eCRF/Forms development to begin once protocol is approved
- First Patient In scheduled by January 1, 2017

ATHN 5 Funding

Hemophilia of Georgia (HOG)

- Thank You HOG!
- Grant supports study being conducted through ATHN
  - 15 sites
  - 4 years

ATHN 5 Hepatitis C Outcomes Study
Contact Information

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