

Study, year	Country	Setting	Cohort Design	Data source	Patient, n	Age (years)	Male (%)	GT 1 (%)	GT 3 (%)	Cirrhosis (%)	CPA (%)	Follow-up (years)	SVR	De Novo Num	De Novo Denom	Occurrence IR per 100 person years	Recurrence Num	Recurrence Denom	IR recurrence per 100 py
Recurrence																			
Yang, 2016	US	Multi-center	Retrospective	Report	18								50%				5	18	
Pol, CO22,2016	France	Multi-center	Prospective	Full article	189	62	78.0	65.0		77.5		1.68	92%				24	189	7.54361
Pol, CO12, 2016	France	Multi-center	Prospective	Full article	13	61	85.0	85.0	7.9	100.0	100.0	1.78	100%				1	13	4.33369
Pol, CO23, 2016	France	Multi-center	Prospective	Full article	314	61	82.0	67.5		0.0		0.58	97%				7	314	3.82187
Zavaglia, 2017	Italy	Multi-center	Prospective	Brief report	31	65	64.5	87.1		100.0	81.0	0.67	84%				1	31	4.83871
Torres, 2016	US	Single-center	Prospective	Brief report	8	64	87.5	75.0		88.5	37.5	1.60	75%						
Adhoue, 2018	France	Single-center	Retrospective (case-control)	Full article	22	63	73.0	82.0	13.0	100.0	82.0	5.67	86%						
Petta, 2017	Italy	Multi-center	Retrospective (post-hoc analysis)	Full article	58	66.3	69.0			100.0	91.0	1.50					16	58	18.3908
Minami, 2016	Japan	Single-center	Retrospective	Brief report	27	71	67.0	78.0	0.0	100.0	100.0	1.30	85%				8	26	23.6686
Reig, 2017	Spain	Multi-center	Prospective	Full article	77	66	69.0	91.0	3.4	94.8	91.0	0.68	95%				21	77	39.9113

Huang, 2017	US	Single-center	Retrospective	conference	178	62	74.0	72.5	22.7	100.0	52.8							
Ikeda, 2017	Japan	Single-center	Prospective	Full article	177	71	59.9	93.2	0.0		96.8	1.73	90%			61	177	19.9787
Cabibbo, RESIST, 2017	Italy	Multi-center	Prospective	Full article	143	70.4	60.1	86.0	4.9	100.0	86.0	0.73	97%			29	143	27.972
Kolly, 2017	Europe	Multi-center	Retrospective	Brief report	47	60	76.6	53.2	31.9	85.1	80.0	1.79				20	47	23.7506
Virlogeuz, 2017	France	Single-center	Prospective	Full article	23	58	87.0	62.0	24.0	100.0	87.0	2.34	96%			11	23	20.424
Sangiovanni, 2017	Italy	Multi-center	Prospective	Abstract	89	69	65.0			100.0		0.87	96%			24	80	34.6667
Minami, 2017	Japan	Single-center	Retrospective	Abstract	163	74	58.9					1.21	92%			78	163	39.6023
Urabe, 2018	Japan	Multi-center	Prospective	Abstract	63							0.91				24	63	41.9397
Ileo, 2018	Italy	Multi-center	Prospective	Full article	161	65.8	68.9	70.8	12.4	100.0	86.3	0.95	95%			38	161	24.8
Occurrence																		
Romano, 2018	Italy	Multi-center	Prospective	Full article	3917	58.1	62.2	61.8	16.8	70.0	91.0	1.47	94%	55	3917	0.95519		
Kobayashi, 2017	Japan	Single-center	Retrospective	Full article	77	63	44.2	100.0		0.0		4.00	100%	2	77	0.64935		
Cardoso, 2016	Portugal	Single-center	Retrospective	Brief report	54	59	70.4	78.0	18.5	100.0	65.0	1.69	100%	4	54	4.37712		
Toyoda, 2016	Japan	Single-center	Retrospective	Brief report	413					37.8		1.00	100%	3.5	413	0.84746		
Mangia, 2016	Italy	Single-center	Prospective	Abstract	1288	65.7	56.0	55.0	10.0	49.0	95.7	1.00	96%	5	1206	0.41459		
Innes, 2018	Scotland	Multi-center	Prospective	Full article	272	52.1	71.3		27.2	100.0	69.6	1.70	100%	12	272	2.59516		
Ji, 2017	China	Single-center	Prospective	Abstract	165	51	51.0	82.2		48.0		1.17	100%					

Korenaga, 2018	Japan	Multi-center	prospect ive	Abstract	509			100.0		23.0		4.00	100%	9	509	0.44204			
Calvaruso, 2018	Sicily	Multi-center	Prospect ive	Full article	2249	65.4	56.9	79.9	6.8	77.8	68.6	1.17	95%	78	2249	2.97275			
Ravi, 2017	US	Single-center	Retrospe ctive	Brief report	66	60	62.0	71.0		100.0		0.50	92%	6	66	18.1818			
Muir, 2018	US	Multi-center	Prospect ive	Confere nce	1564	59	68.0			100.0	85.0	1.02	100%	55	1564	3.45027			
Sogni, CO13, 2016	France	Multi-center	Prospect ive	Full article	189	53.2	74.6	58.0	17.0	100.0	91.0	0.23	93%	2	189	4.58554			
Kanwal, 2017	US	Multi-center	Retrospe ctive	Full article	22500	61.6	96.7	86.8	4.2	39.0		1.02	87%	271	22500	1.18016			
Ioannou, 2017	US	Multi-center	Retrospe ctive	Full article	21948	61	96.8	84.6	4.9	23.8		1.53	91%	455	23090	1.32			
Nagaoki, 2017	Japan	Single-center	Retrospe ctive	Full article	154	73	37.7	100.0		53.2		1.92	100%	7	154	2.37154			
Backus, 2017	US	Multi-center	Retrospe ctive	Full article	14024	63.1	97.2	85.0	6.6	100.0		1.62	93%	537	14024	2.36529			
Kozbial, 2017	Austria	Multi-center	Retrospe ctive	Full article	551	57.9	61.2	86.4	7.3	71.5	86.2	1.26	96%	13	551	1.87021			
Pascasio, 2017	Spain	Multi-center	Retrospe ctive	Full article	29	55	79.0	73.0	17.0	100.0	31.0	1.88	84%	1	29	1.83594			
Belli, 2017	France	Single-center	Prospect ive	abstract	34							2.13		0	34	0			
nunez, 2017	Spain	Single-center	Retrospe ctive	Abstract	339	58	63.0	81.0	11.0	86.1	78.0	1.10		8	339	2.15287			
Li, 2018	US	Multi-center	Retrospe ctive	Full article	5834	62	96.6	84.5	3.3	19.9		1.08	96%	50	5834	0.792			
Romano, 2017	Italy	Single-center	Prospect ive	Abstract	93					100.0	77.4	1.27							
Kondili, 2017	Italy	Multi-center	Prospect ive	Abstract	1457	60	95.0			55.7		1.00	95%	0	811	0			
Sun Hong Yoo, 2017	Korea	Multi-center	Retrospe ctive	Abstract	574							0.87	96%	5	574	1.00509			

Mangia, 2017	Italy	Single-center	Prospective	Abstract	1170	61.9	60.0			48.0	89.0	1.78		14	1170	0.67098			
Sangiovanni, 2017	Italy	Multi-center	Prospective	Abstract	505	63	62.0			100.0		1.00	95%	20	505	3.9604			
Miyase, 2017	Japan	Single-center	Prospective	Abstract	516											0.83			
kuftinec, 2017	US	Single-center	Prospective	Abstract	153							1.00	86%	7	153	4.57516			
Lleo, 2018	Italy	Multi-center	Prospective	Full article	1766	61.7	61.9	67.6	12.3	100.0	88.6	1.18	95%	50	1766	2.4			
Cardoso, 2016	Portugal	Single-center	Retrospective	Brief report	54	59	70.0	78.0	18.0	100.0	64.8	1.00	100%	4	54				
<u>Occurrence & recurrence</u>																			
Conti, 2016	Italy	Multi-center	Retrospective	Full article	344	63	60.2	68.9	11.0	100.0	88.7	0.46	91%	9	285	6.84268	17	59	62.4346
Lei-Zeng, 2016	China	Single-center	Prospective	Brief report	31	56	19.0	100.0	0.0	100.0	67.0	1.25	97%	0	21		0	10	
Cheung, 2016	England	Multi-center	Prospective	Full article	406	54	0.0	48.8	42.1	100.0	17.2	1.25	78%	25	377	5.30504	2	29	5.51724
Issachar, 2017	Israel	Single-center	Retrospective	Conference	273	58	50.9	88.3	5.1	53.1	100.0	1.50	95%	6	260	1.53846	3	13	15.3846
Rinaldi, 2016	Italy	Multi-center	Prospective	Full article	265	68	53.0	76.0		100.0	86.8	0.23	97%	8	265	13.0818	1	15	28.8889
Menzaghi, 2017	Italy	Multi-center	Prospective	Conference	1125	56.2	69.2	61.3	18.5			1.39	94%	21	1125	1.34132	6	29	14.8668
Douhara, 2017	Japan	Single-center	Retrospective	Full article	33	68	54.5	81.8	0.0	24.2		0.87	100%	0	32		1	1	115.385
Cajella, 2017	Spain	Multi-center	Retrospective	Full article	1567	59.5	53.7	100.0	0.0	46.7	98.6	0.48	97%	30	3233	1.92302	21	70	62.1712
Murcia, 2017	Spain	Multi-center	Prospective	Brief report	179	59	56.2	79.0		100.0	70.0	1.75	98%	11	179	3.51157	2	14	8.16327
Fangazio, 2017	Italy	Single-center	Prospective	Brief report	286	64	58.0			66.0		0.46	94%	9	273	7.14286	2	13	33.3333

Donato, 2017	Italy	Single-center	Prospective	Brief report	35	57	83.0			100.0		1.67	94%	0	16		3	35	5.14286
Bielen, 2017	Belgium	Multi-center	Retrospective	Full article	490	59	62.7	69.9	14.1	67.0	100.0	0.50	94%	4	355	2.25352	6	40	30
Degasperi, 2019	Italy	Single-center	Prospective	Full article	565	64	60.0	49.0	11.0	100.0	87.0	2.08 for occurrence; 1.92 for recurrence	97%	20	517	1.85687	9	48	9.78261
Ogawa, 2017	Japan	Multi-center	Prospective	Abstract	1675							1.42		18	1523	0.83427	25	152	11.6099
Ponziani, 2017	Italy	Single-center	Prospective	Abstract	185					83.2	94.6	1.32	95%	2	130	1.16845	17	24	53.7975
Sterling, 2018	US	Single-center	Prospective	Abstract	342	58	60.0	89.0				0.50	91%	6	321	3.73832	4	21	38.0952
Tachi, 2017	Japan	Single-center	Prospective	Full article	263	70.7	46.4	75.6		18.6	100.0	1.51	100%	7	233	1.9918	11	30	

Table S3. Names of DAA studies included and characteristics of patients in these studies.

Mean
Exact number for all subjects
Median

Notes on individual studies

For Innes, median and mean f/u are both 1.7 yrs. Median time to event is 1 year, median is 0.9 years
 Korenaga included patients co-infected with HBV (1.4%) and HIV (2.8%). ~5% patients >12 months US prior to DAA but mean <6 months
 Menzaghi included 34% co-infected patients with HIV
 In CO13, 100% of patients were co-infected with HIV
 Kanwal, Ioannou, Backus, Li were VA studies
 Murcia, time to HCC is for recurrence arm
 Ioannou includes 4% HIV co-infection, 1% HBV co-infection. Excluded anyone w/ <180 days of follow-up
 Bielen included 5.3% HIV co-infected and 1.4% HBV co-infected
 In Sterling, 5% were HIV co-infected

Denom = denominator
 GT = genotype
 HBV = hepatitis B

IR = incidence rate
 Num = numerator
 VA = Veterans Affairs

Study, year	Country	Setting	Cohort Design	Data source	Patient ,n	Age (years)	Male (%)	GT 1 (%)	GT 3 (%)	Cirrhosis (%)	CPA (%)	Follow-up (years)	SVR	De Novo Num	De Novo Denom	Occurrence IR per 100 person years	Reurrence Num	Reurrence Demon	IR recurrence per 100 py
Recurrence																			
Hagihara, 2011	Japan	Single-center	Retrospective	Full article	37	63	78.0	62.2				4.60	51.4%				18	37	10.58
Kanogawa, 2015	Japan	Multi-center	Retrospective	Full article	41	65	76.0	47.6		100.0	100.0	7.01	53.7%				22	41	7.66
Kunimoto, 2016	Japan	Single-center	Retrospective	Full article	120	65	88.0	72.0		35.0		5.08	100.0%				16	40	7.87
Jeong, 2007	Japan	Single-center	Retrospective	Full article	42	62	85.7	66.7	0.0	92.9	83.3	2.67	69.0%				20	42	17.86
Saito, 2014	Japan	Multi-center	Retrospective	Full article	51	72	92.9	44.4		14.3		3.45	27.5%				39	51	22.17
Sanefuji, 2009	Japan	Single-center	Prospective	Full article	26	68	65.4				100.0	3.75					3	6	13.33
Minami, 2016	Japan	Single-center	Prospective	Brief report	38	66	71.0	76.0			100.0	7.60	34.2%				26	38	9.00
Petta, 2017	Italy	Multi-center	Retrospective	Full article	57	62	72.0			100.0	90.0	2.83	100.0%				22	57	13.62
Bruno 2017	Italy	Multi-center	Retrospective	Full article	175		78.9	79.3		100.0	88.9	3.00	10.9%						
Hsu, 2013	Taiwan	Multi-center	Retrospective	Full article	213	62.1	66.2			38.5		2.01					62	213	14.48
Kudo, 2007	Japan	Single-center	Prospective	Full article	43	65	76.7	100.0			100.0	5.10	4.7%				24	43	10.94

			d case-control study																
Mazzaferro, 2006	Italy	Multi-center	Randomized controlled trial	Full article	42	65	83.3	75.3	3.3	100.0	97.6	3.75	4.8%				48	76	16.84
Tanimoto, 2012	Japan	Single-center	Prospective, propensity score analysis /matching	Full article	38	65.5	60.5	74.4	0.0		1.0	3.80	42.1%				21	38	14.54
Shirtatori, 2003	Japan	Single-center	Randomized controlled trial	Full article	49	61	71.4	61.2	0.0	100.0	100.0	7.10	28.6%				37	49	10.64
Kubo, 2001	Japan	Single-center	Randomized controlled trial	Brief report	15	61.9	1.0	80.0	0.0	47.0	73.3	2.98	13.3%				5	15	11.20
Urabe, 2017	Japan	Multi-center	Prospective	Abstract	56							2.83					23	56	14.54
Occurrence																			
Miyase, 2017	Japan	Single-center	Retrospective	Abstract	524								100.0%				0.84		
Yamashita, 2014	Japan	Single-center	Retrospective	Full article	562	57	55.3	41.8		9.0		4.80	100.0%	31	562	1.15			
Ogawa, 2013	Japan	Multi-center	Prospective	Full article	1013	58	49.2	70.1	0.0	14.8		3.60	55.0%	47	1013	1.29			
van der Meer, 2017	The Netherlands	Multi-center	Retrospective pooled cohort studies	Full article	1000	52.7	67.8	50.0	19.7	85.0	100.0	5.70	100.0%	51	1000	0.89			
Bruno, 2009	Italy	Multi-center	Prospective	Full article	194	59	51.0			100.0	100.0	8.01	14.0%	56	194	3.60			
Mallet, 2008	France	Single-center	Prospective	Brief report	96	45	60.0	53.1		100.0	100.0	9.83	36.5%	17	96	1.80			

Cardoso, 2010	France	Single-center	Retrospective	Full article	307	55	67.0	60.0	16.0	58.0		3.50	33.6%	46	307	4.28			
Yu, 2006	Taiwan	Multi-center	Retrospective-prospective	Full article	1057	46.9	60.5	45.7		15.6		5.18	67.6%	51	1057	0.93			
Hung, 2006	Taiwan	Single-center	Prospective	Full article	132	56	52.0	50.4		100.0	100.0	3.08	55.3%	16	132	3.93			
Morgan, 2010	USA	Multi-center	Prospective	Full article	526	49	72.0	87.0	5.1	35.0		6.90	26.6%	35	526	0.96			
Aleman, 2013	Sweden	Multi-center	Prospective	Full article	303	51	69.0	50.0		100.0	100.0	5.40	36.3%	32	303	1.96			
Cheinquer, 2010	Brazil	Single-center	Prospective	Full article	85	52	66.0	29.6		100.0	100.0	2.50	45.0%	9	85	4.24			
Moon, 2015	Korea	Single-center	Retrospective	Full article	463	50.9	47.7	57.7	1.7	100.0	100.0	3.01	64.8%	12	463	0.86			
Fernandez-Rodriguez, 2010	Spain	Multi-center	Retrospective	Full article	568	51	69.4	70.1		100.0	100.0	2.92	30.6%	31	568	1.87			
Janjua, 2016	Canada	Registry	Retrospective	Full article	8147	50	67.6	46.7	25.1	5.0		5.60	57.2%	174	8147	0.38			
Rutter, 2016	Austria	Single-center	Prospective	Full article	714	51.4	61.3	64.1	11.5	100.0		7.20	77.2%	29	714	0.56			
Velosa, 2011	Portugal	Single-center	Prospective	Full article	130	51.7	70.8	61.0		100.0	100.0	6.40	30.0%	21	130	2.52			
Nahon, 2017	France	Multi-center	Prospective	Full article	1323	55	63.0	67.9	15.6	100.0	100.0	4.85	50.6%	182	1323	2.84			
Di Marco, 2016	Italy	Single-center	Prospective	Full article	444	58	62.2	83.4	3.8	100.0		7.60	24.3%	99	444	2.93			
Trapero-Marugan, 2011	Spain	Single-center	Prospective	Full article	153	47	53.6	75.8	20.9	3.3		6.33	100.0%	1	153	0.10			
El Braks, 2007	France	Multi-center	Retrospective	Full article	113	54.1	61.1	61.1	15.8	100.0	100.0	7.70	32.7%	1	37	0.35			
van der Meer, 2012	The Netherlands	Multi-center	Prospective	Full article	530	48	69.6	67.7	17.5	100.0		8.40	100.0%	7	192	0.43			
El-Serag, 2016	USA	Multi-center	Retrospective	Full article	10738	53.1	95.3	53.6	13.5	14.4		2.80	100.0%	100	10817	0.33			
Kobayashi, 2017	Japan	Single-center	Retrospective	Full article	528	54	58.0	100.0		9.7		7.30		12	528	0.31			

Toyoda, 2016	Japan	Single-center	Retrospective	Brief report	578		58.4			61.0		1.00		2	578	0.35			
Innes, 2017	Scotland	Multi-center	Prospective	Full article	585	48.1	77.1		64.3	40.4	91.0	3.50	100.0%	34	585	1.66			
Ioannou, 2017	USA	Multi-center	retrospective	Full article	35871	52.4	96.6	70.5	11.2	11.6		9.15	33.4%	2651	35871	0.81			
Nagaoki, 2017	Japan	Single-center	retrospective	Full article	244	59	52.0	100.0		28.3		8.00	100.0%	13	244	0.67			
Li, 2018	USA	Multi-center	retrospective	Full article	3534	54	95.9	28.5	9.3	13.1		7.41	66.6%	196	3534	0.75			
Hsu, 2013	Taiwan	national	Retrospective	Full article	457	50	57.8			81.6		4.90		18	457	0.80			

Table S4. Names of IFN studies included and characteristics of patients in these studies.

Mean
Median

Notes on individual studies

In Hagihara, GT1 refers to only GT1b infected patients
 Kanogawa includes 137 untreated patients (demographics for these patients included in overall analysis)
 In Sanefuji, time to HCC is only for the SVR group (6/26 patients). Recurrence rate only reported for SVR group
 In Yamashita, GT1 refers to only GT1b infected patients
 In Mazzaferro, used recurrence rates for HCV/HBV core ab positive as well as 'pure' HCV-infected subjects
 In Kudo, GT1 refers to only GT1b infected patients. Maintenance IFN was given for median of 4.7 years.
 In Tanimoto, GT1 refers to only GT1b infected patients
 Shiratori, GT1 refers to only GT1b infected patients
 Urabe included IFN-based treatment regimens but some patients received IFN/RBV + telaprevir/simeprevir
 In Hung, 116/132 patients completed IFN treatment
 In Aleman, baseline characteristics also include 48 untreated patients
 In Van der Meer, 47% were hep B core ab positive
 El Serag is VA, also 3.5% were co-infected with HIV
 In Kobayashi, GT1 refers to only GT1b infected patients
 In Hsu, 6.1% with Hep B and 0.4% HIV co-infections

Denom = denominator
 GT = genotype
 HBV = hepatitis B
 HCV = hepatitis C
 IR = incidence rate
 Num = numerator
 VA = Veterans Affairs