Supplementary Material

Methods

Identification of remission phases and analysis of time in remission

For each US examination performed in remission (as defined with Disease Activity Score on 28 joints using the erythrocyte sedimentation rate (DAS28-ESR) <2.6), we tried to identify the time-point after which clinical remission must have started (left blue cross in Supp. Fig. 1) and ended (right blue cross in Supp. Fig. 1). Several events were considered eligible for these two time-points:

1. the last previous observation of DAS28-ESR ≥2.6
2. the last previous start of a biologic (b-) disease-modifying antirheumatic drug (DMARD) (ignoring those starts for which we had evidence of clinical remission)
3. the last previous conventional synthetic (cs) DMARD start (ignoring those starts for which we had evidence of clinical remission)
4. the last previous glucocorticoid start or dose increase of 5mg or more
5. the last previous drug discontinuation due to insufficient effectiveness

Whichever event occurred first, was selected. In case of documented evidence of clinical remission at above specified events (DAS28-ESR <2.6 at a visit within +/– 1 week of the event), we ignored it.

Identification of other important events (first and last black cross) was done after identifying the blue crosses.

As we were not able to exactly assess when remission started and ended, we performed:

- either left (mode 2) or right (mode 1) imputation of the start of remission (= time origin, Supp. Fig. 1) and
- right imputation of the loss of remission (at right blue cross in Supp. Fig. 1) with censoring at the latest time-point at which clinical remission had been documented (last black cross in Supp. Fig. 1) in case the time-point before which clinical remission must have been lost (right blue cross) was not observed.

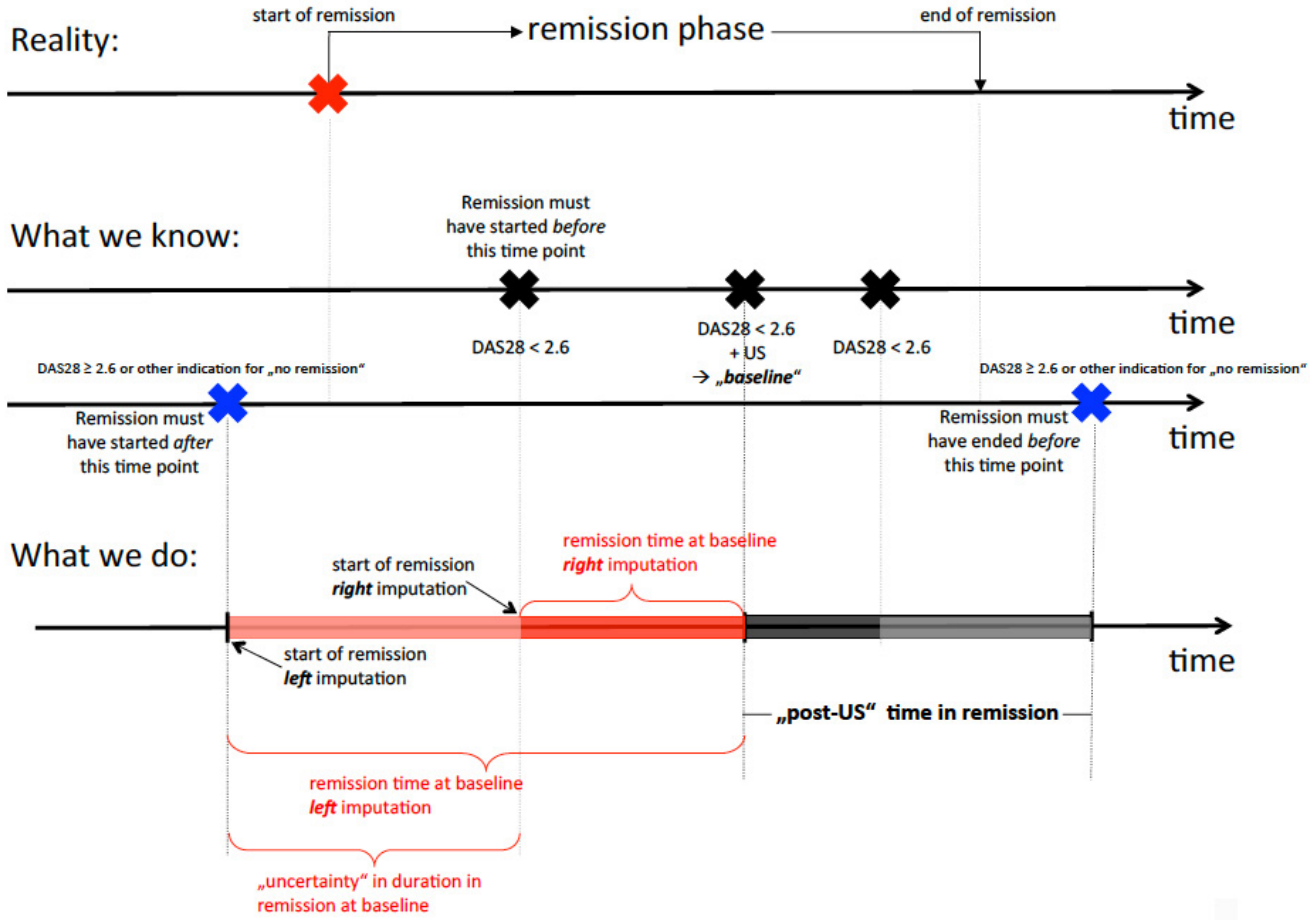

Fig. S1. *Illustration of the identification of remission phases and the analysis of time in remission*

Tab. S1. *Drug tapering between patients with ultrasound-detected tenosynovitis (USTS+) and those without (USTS–)*

Variable	*N*	Tenosynovitis			
		All (*n* = 402)	Negative (*n* = 362)	Positive (*n* = 40)	*P*-value
csDMARD tapering, *n* (%)	402	21 (5)	19 (5)	2 (5)	1
bDMARD tapering, *n* (%)	402	30 (7)	27 (7)	3 (8)	1
any tapering, *n* (%)	402	46 (11)	41 (11)	5 (12)	0.7943
P-values are from Kruskal-Wallis test bDMARD – biological disease-modifying antirheumatic drugs; CDAI – clinical disease activity index; csDMARD – conventional synthetic disease-modifying anti-rheumatic drugs					

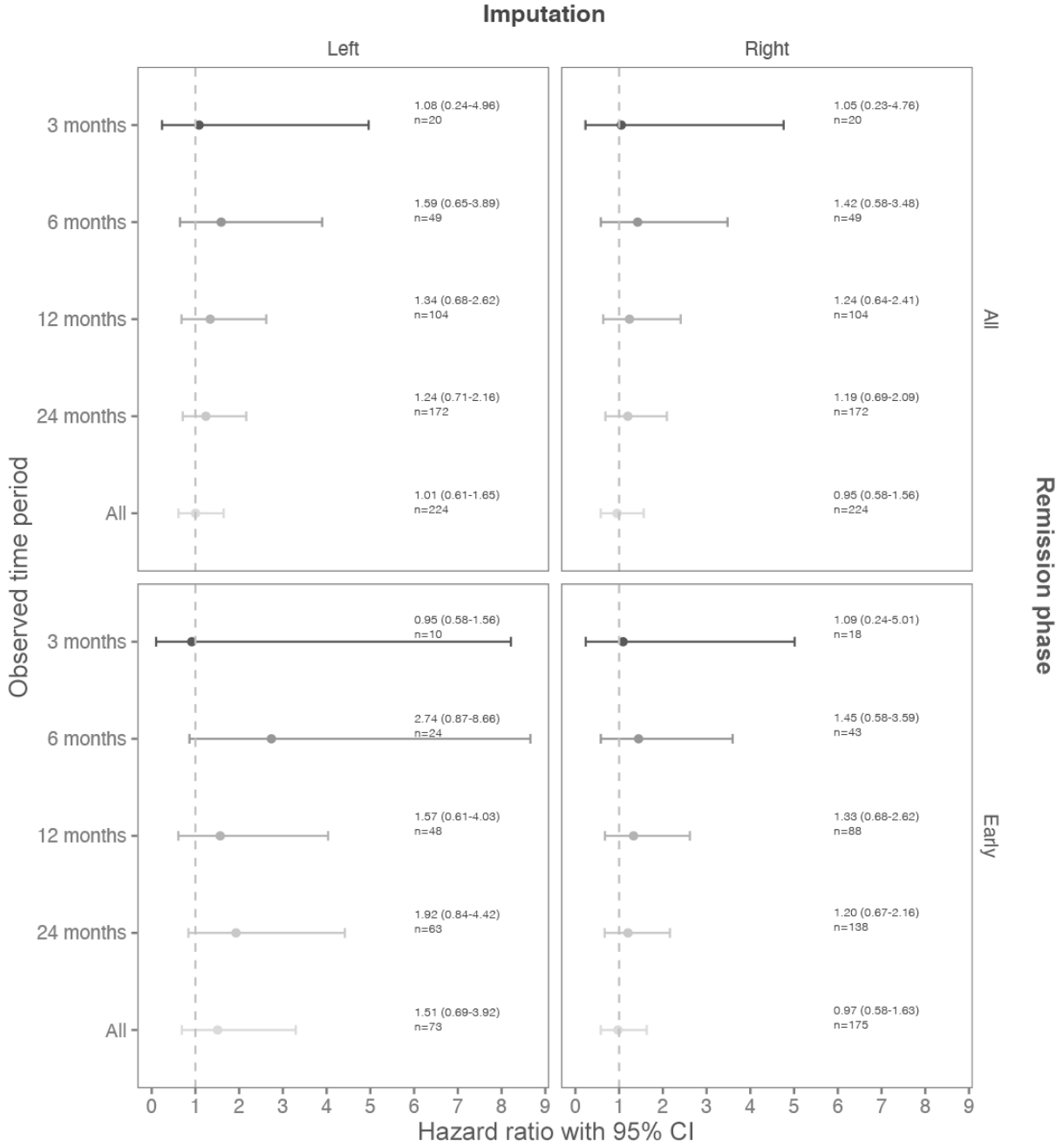

Fig. S2. *Multiple adjusted hazard ratios (HR) for time to loss of remission comparing patients with versus without ultrasound-detected TS across different observed time periods and across all and early remission phases based on left and right imputation using multiple possible remission phases per patient. Progression events after the respective indicated observation time were censored. The numbers on the right of each panel are the HR with 95% confidence interval (CI) in brackets and below the number of events*

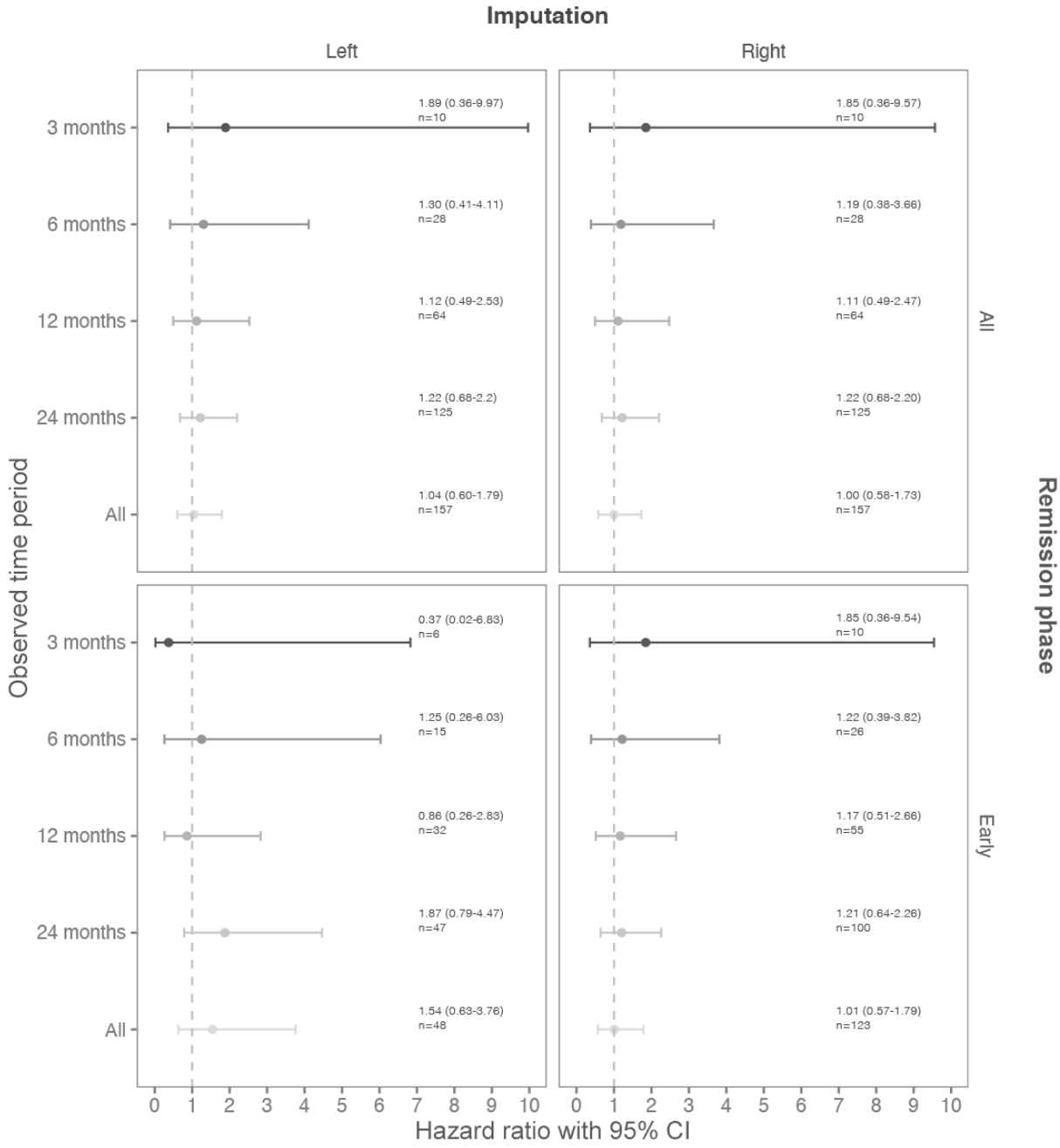

Fig. S3. *Multiple adjusted hazard ratios (HR) for time to loss of remission comparing patients with versus without ultrasound-detected TS across different observed time periods and across all and early remission phases using left and right imputation. Flare was restricted to DAS28-ESR ≥2.6. Progression events after the respective indicated observation time were censored. The numbers on the right of each panel are the HR with 95% confidence interval (CI) in brackets and below the number of events*