Figure 4: (supplementary material) Patterns of failure in the population (137 patients).
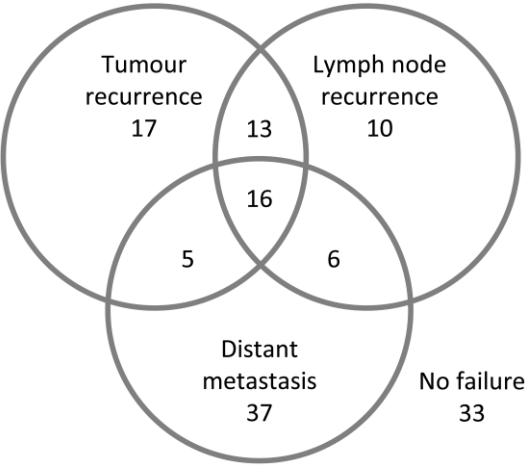
Figure 5: (supplementary material) Overview of mediastinal lymph node (LN) involvement at recurrence in all 22 studied patients. a) Patients are ranked according to the number of involved lymph nodes for right sided tumour (R); Left sided tumour (L) while T0 represent a patient with no primary tumour. Recurrence in a previously untreated LN is represented by gray symbol (◯) while in-field recurrence in previously treated LN is represented by a black symbol (●). b) Bar chart of the number of patients with specific LN station involvement at recurrence (light gray bar). Patients with LN involvement at the same station both prior to treatment and at recurrence are represented as a black bar.

a

Affected lymph node stations at recurrence

Patient	T-site	1R	2R	4R	10+11R	7	3A	1L	2L	4L	10+11L	5	6
1	R	◯	●	●		◯	◯			◯			
2	R		●	●		●			◯		◯		◯
3	R	◯	◯	◯		◯							
4	R		◯	◯						◯			
5	R			●		●							
6	R			●	◯								
7	R			●	◯								
8	R		◯		●								
9	R					●	◯						
10	R				◯								
11	R							◯					
12	R				◯								
13	L		●		◯	◯	◯			◯	●	◯	
14	L		◯	◯	◯					●	◯		◯
15	L	◯	◯	◯	◯	●							
16	L				◯					●		◯	◯
17	L					●					◯	●	
18	L		◯						◯				
19	L							◯			◯		
20	L											●	
21	L											◯	
22	T0											●	●

b

LN-station involvement at recurrence

(Legend: ■ LN at recurrence; ■ In-field LN recurrence)

Bar chart categories: 7, 4R, 10R 11R, 2R, 5, 10L 11L, 4L, 6, 1R, 3A, 1L, 2L
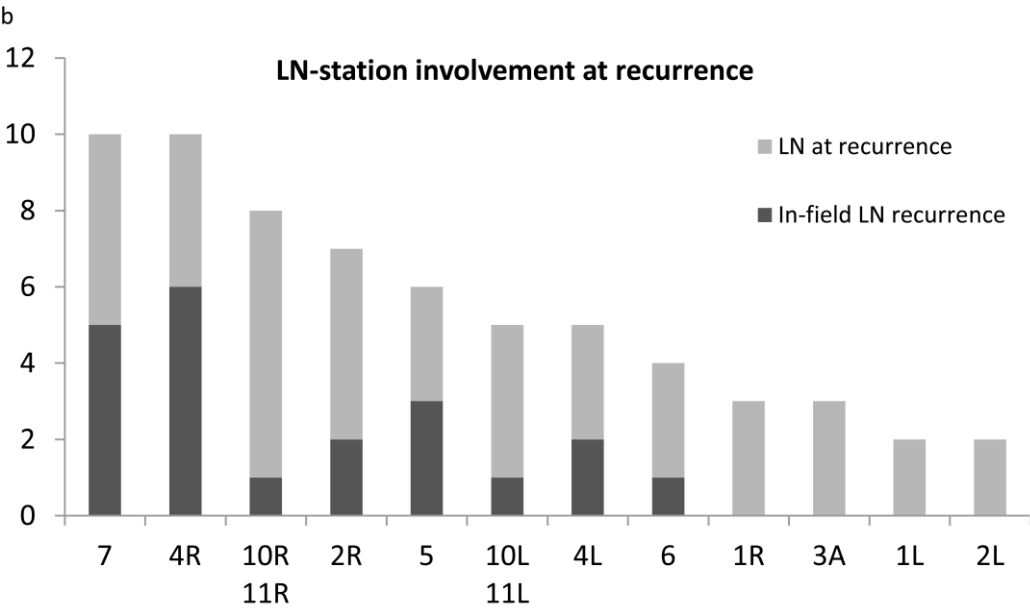
Figure 6: (supplementary material) Representative images in 4 patients over challenging issues with uncertain rigid registration between p-CT and rec-CT. Planning CT (p-CT) scans are shown in left-columns and recurrence CT (rec-CT) in right-columns. **a**) atelectasis and fibrosis on rec-CT; **b**) pleural effusion on p-CT; **c**) fibrosis and differences in lung volumes on rec-CT; **d**) difference in patient positioning on rec-CT.

Gross tumour volumes = Red lines; recurrence tumour = Brown lines, rigid registered on p-CT (left columns).